The Future of Food and Farming: Challenges and Choices for Global Sustainability

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Why this report now?

Total world population in billions: probabilistic projections until 2100 (green 95% interval; blue 60%; pink 20%)

The case for urgent action in the food system:

- Convergence of threats
- The food system is failing
- A unique time in history
Three key messages

• Radical redesign of the global food system

• “No action/change” is not an option

• Policies and decisions outside of the food system also critical
The food system is failing on sustainability...

- Agriculture currently consumes 70% of total global water withdrawals from rivers and aquifers, many of which are overexploited.

- Of 11.5 billion ha of vegetated land on earth, around 24% has undergone human induced soil degradation.

- Agriculture directly contributes 10-12% of GHG emissions.
.... and failing to end hunger

Undernourishment data versus the MDG target

Five Challenges

A. Balancing future demand and supply sustainably
B. Addressing the threat of future volatility in the food system
C. Ending Hunger
D. Meeting the challenges of a low emissions world
E. Maintaining biodiversity and ecosystem services while feeding the world
Balancing future demand and supply sustainably

- Producing more using existing knowledge

  Innovation to increase production

- Reducing Waste

- Managing demand

- Better governance
Addressing the threat of future volatility in the food system

Source: HMG (2010) Data sourced from UNCTAD, BEA
Ending Hunger

- Greater priority must be given to the food system
  - Agriculture as a profession
  - Well-functioning global food system

- Agriculture can help end hunger
  - Essential for physical access to food
  - Raises incomes & generates employment
  - Empowers women
  - Social protection policies
  - Monitoring and evaluation

- Political courage and leadership is needed

The international community must challenge itself over the apparent ease with which hunger is ignored.
Meeting the challenges of a low emissions world

Agriculture and the food system must be taken into account in climate change negotiations

- 10-12% GHG emissions
- 30% including land conversion
- CH₄ from ruminants and irrigated rice
- N₂O from fertilisers

Contribution of the food system to climate change

- Farming and fishing (52)
- Manufacturing (13)
- Commercial transportation (15)
- Retail (11)
- Catering (5)
- Households (21)
- Net trade (39)
- Pre-farm production (4)

(Million tonnes CO₂ equivalent)
Maintaining biodiversity and ecosystem services while feeding the world

- Major knowledge gaps
- A range of trade-offs
  - Yield versus ecosystem services
  - Different ecosystem services
  - Land sparing versus wildlife-friendly agriculture
  - Biodiversity and the needs of the poor
- All land provides ecosystem services
  - Need to recognise monetised and non-monetised ecosystem services
  - Align environmental and market incentives
- Policy needs to be connected at global, national and landscape scales

Conservation needs food security
Priorities for action: Europe

• Reform the CAP and CFP
• Show global leadership on subsidy and trade reform.
• Increase the priority of food system research and development
• Implement rational approaches to strategic competition in food supplies and markets
• Ensure governance and oversight of the food system
• Support the introduction of new technologies

An additional 44 million people in extreme poverty