

Introduction



Climate change impacts on food security and nutrition now and in the future

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Climate and food intervened

Contents to the introduction

1. The food challenge
2. Pillars of food security + climate change
3. Addressing climate change in food systems
4. Agriculture's and consumers' roles
5. Conclusions: Climate-smart food systems

Photo: Farmer harvesting longane fruits in Viet Nam FAO/H.Dinh Nam



An added challenge

- Ensuring food security and nutrition for all
- 4 pillars of food security – all affected by climate change:



- Concern: food security **and** nutrition security
- Intertwined challenges:
Food security and nutritional status will affect people's capacity to adapt their lives and livelihoods.

Access to food is the key

People's access to nutritious food and food utilization can be affected by a number of factors related to climate change:

- Decreasing food availability due to production constraints
- Fluctuations in food supply
- Damaged infrastructure
- New food safety hazards
- Losses of livelihood assets, income and employment opportunities



Different timescales and responses

- **Immediate** risks and losses caused by extreme weather events
 - ➡ manage risks and build immediate resilience
- Adjust to longer-term trends ➡ managing the changes
- Climate change impacts differ in different locations
 - ➡ adjust solutions according to local agro-ecological and socio-economic conditions
- **Root causes** of climate change must be addressed



Addressing root causes of climate change

Target: Limiting temperature increase to a **maximum of 2°C**

Countries have:

- different GHG emission profiles, e.g. emissions per sector (transport, energy, agriculture, deforestation etc.); and
- different emission levels per capita
- different options for **reducing** their emissions or ensuring emissions will **not increase** in the future



Agriculture's and consumers' role

Agriculture is highly **exposed** to climate change.

At the same time agriculture, forestry and other land uses are **responsible for 22–24%** of the total GHG emissions.

Main GHGs and sources in agriculture

- **Carbon dioxide (CO₂)**: decomposition of soil organic matter and plant litter, deforestation and burning of plant residues
- **Methane (CH₄)**: livestock, rice production and manure handling
- **Nitrous oxide (N₂O)**: inorganic fertilizer and manure application to soils

Demand side: People's **food choices and diets** have an impact on natural resources management & GHG emissions



Food security through low-emission agriculture

- Story: Higher demand for food ➡ continued growth in agriculture production ➡ increasing GHG emissions
➡ more challenges for adaptation and recovery

Smarter agriculture and food consumption can be part of the solution

- Production: With **appropriate practices** emissions can be reduced **without** affecting productivity or compromising food security
- Consumption: More diversity in food demand and consumption patterns can enhance the climate-smartness of the whole system.



Climate-smart food systems are essential

Take into account:

1) Resilience, adaptation, food security, nutrition, productivity, development goals and emission reductions

2) Consumers have a role to play

3) Site-specific production practices e.g.

- agroforestry
- reduced deforestation
- sustainable crop and grazing land management
- improved livestock and manure management
- soil and water conservation &
- sustainable land and water management

