

# Megatrends in the agri-food sector : global overview and possible policy response from an EU perspective

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## Structure of the Presentation

1. Introduction
2. Megatrends affecting the agri-food sector
3. Global forces affecting the future of the food chain
4. Global food and agriculture challenges
5. Potential scenarios and policy options
6. Conclusions



According to FAO, under current circumstances, by 2050 the agri-food sector will have to generate 50% more food and feed to be able to meet the increased demand for food.

Food insecurity will rise because climate change will bring harsh climate events such as droughts and floods, tropical storms, heat waves and wildfires, which will affect production

# 3. Megatrends affecting the global agri-food sector

- 10 billion people in 2050.
- Growing income per capita and increasing urbanisation.

## Demographic and income trends



- Growing income per capita and increasing urbanisation generate higher and different food consumption per capita.

## Consumption patterns and emerging trends



- Technological innovation could increase yields by 30%, enhance ecological efficiency, create new business models.

## Technological change



- Agriculture itself is responsible for high GHG emissions.
- Higher rates of undernutrition due to availability of fewer calories per capita.

## Climate change



- One third of the world's food is being lost or wasted.
- Food losses and waste are estimated to be 1.3 billion tonnes every year.

## Food waste



- Natural resources for agriculture will become even more scarce by 2050.
- About 70% of all water usage is meant for agriculture.

## Competition for natural resources



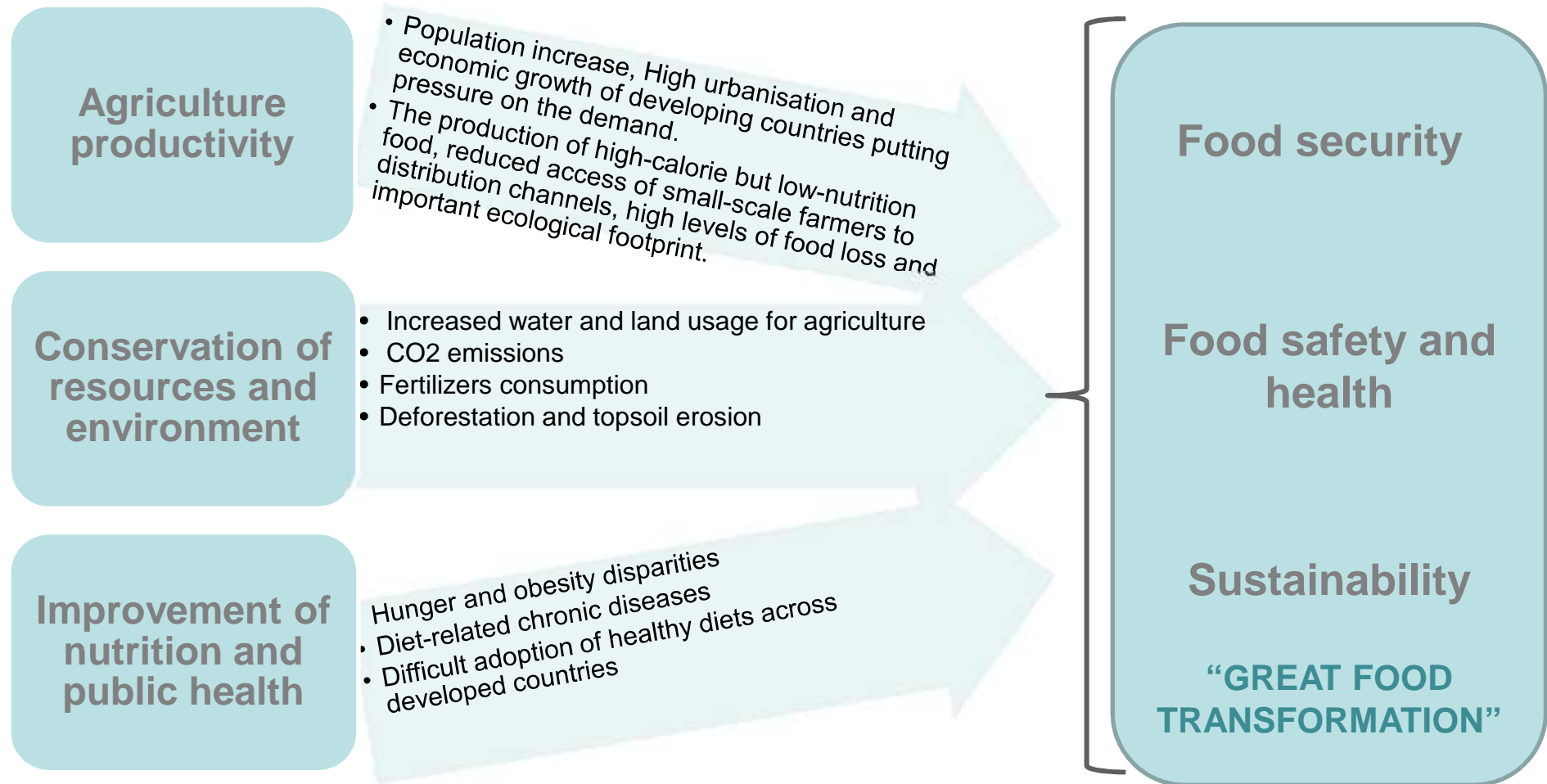
## Policy Context

- International agreements, policies and conventions
- Agriculture policy support
- Environmental protection and sustainability

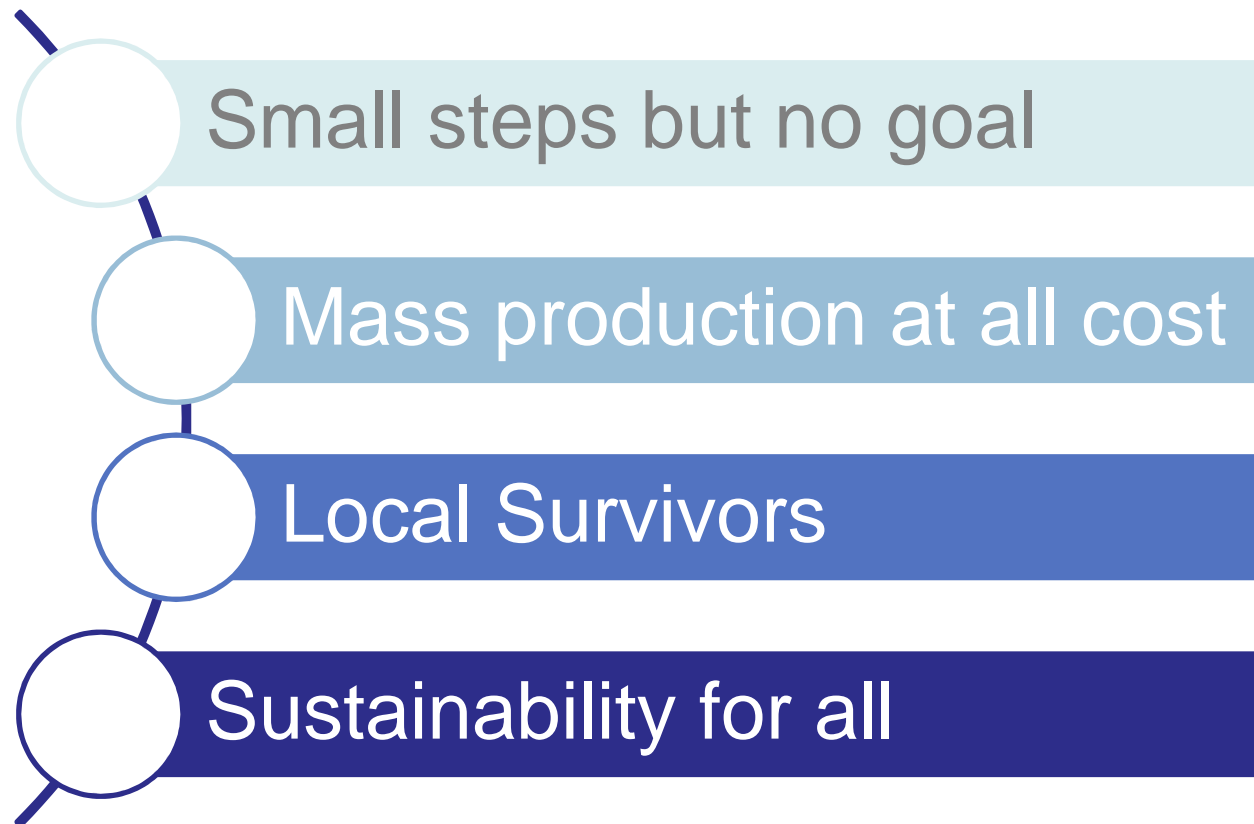
## 4. Global forces affecting the future of the food chain

Sub-Topic	Main highlights
<b>Trade agreements</b>	There is a need for a more integrated international trade, having the potential to contribute to better availability of food across the globe. Trade policies and trade agreements play an important role affecting the global agri-food chain. International trade in agri-food products falls under the remit of and should be fostered by the World Trade Organization (WTO).
<b>Economics of the value chain</b>	More vertically integrated food supply chains are becoming increasingly important, with large multinational companies combining food processing, transforming, storage and retail industries.
<b>Innovating food production systems and other elements</b>	Europe is achieving a higher yield through innovation and precise farming. Other innovative systems are sharing of equipment, in-store farming, organic production
<b>Transformation of the market place</b>	Digital platforms may provide simplification and increased transparency of commercial transactions, greater efficiency in the production and commercialisation process, lower consumer prices.

## 5. Global challenges for the future of food and agricultural systems



## 6. Potential scenarios and policy options



# Scenario 1: “Small steps but no goal”

- Business as usual situation
- Limited efforts to reduce food loss and waste
- The production systems do not change compared to the current situation
- Consumers show limited willingness to pay for environmentally friendly food
- Investment in R&D is insufficient, and policies are not covering food security issues

FOCUS	POLICY OPTIONS
Food security	Improve production potential by using current CAP instruments and ensure well-functioning food chain
Climate change	Increase incentives under the CAP proposal for resource-efficient and climate-friendly agriculture technologies Continue to support global initiatives
Farmers	Fair revenue for farmers through CAP direct aid system, decoupled and current coupled aid Prioritise innovation and technology in Rural Development investment support Support farmers with infrastructure, credit facilities, education of younger farmers
Food safety	Monitor and ensure that European food safety and quality standards are applied
Consumers	Support and invest in education regarding obesity and undernutrition to adopt healthier lifestyles and diet habits among future generations Development of a fully-fledged EU nutrition policy through regulation and self-regulation as appropriate

Scenario 1, corresponding to the current situation, is no longer a viable approach to respond to increasing food demand and the need to be sustainable



## Scenario 2: “Mass production at all cost”

- In this scenario, food demand is managed but at the unmeasurable price of environmental degradation
- Agri-food systems focus only on expanding agricultural production without environmental concern
- R&D investments only for productivity and no further policy options focusing on the environment
- Consumers are focusing on satisfying their needs and food preferences, without environmental awareness

FOCUS	POLICY OPTIONS
Food security	Develop crisis management plans for situations in which EU production or supply are disrupted because of market or natural occurrences
Climate change	Deprioritising climate change across relevant EU policy areas
Farmers	<p>Increase CAP support to farmers revenue with shift from decoupled aid system towards coupled aid and price support mechanisms linked to food security objectives</p> <p>Compulsory priority mechanisms of investment in technology uptake. Allow EU farmers to have access to existing and new biotechnology techniques</p>
Food safety	Monitor and ensure that European food safety and quality standards are applied
Consumers	Support and invest in education regarding obesity and undernutrition to achieve healthier dietary habits among future generations

Scenario 2 shows a relevant risk linked to the constant negligence of climate issues that at some point could lead to such extreme events that it will totally cancel the improved productivity, potentially leading to Scenario 1

## Scenario 3: “Local Survivors”

- The production system is largely based on small local producers, separate national or regional actions are undertaken without cooperation
- Limited actions undertaken for the reduction of GHG emissions
- The quantity of land increases as local production and urban agriculture are supported in order to meet food security needs
- Customer choices are driven by health, local production and environmental protection
- Trade policies and agreements are left behind

FOCUS	POLICY OPTIONS
Food security	Address food security in a non-structured and inhomogeneous way Invest in technology innovation to grow products under specific conditions and guarantee enough production in terms of quantity
Climate change	Stop addressing climate change in international fora and via international cooperation Invest in the protection of agriculture at domestic level
Farmers	Improve farmers revenue in areas where agriculture policies exist already (e.g. CAP, Farm bill)
Food safety	Continue to monitor and ensure that European food safety and quality measures are applied by all local and national food producers
Consumers	Design and implement protectionist policies that encourage consumers to buy domestic and local food products

Food security and climate change are global issues resulting in very complex links that do not have geographic borders. These challenges need to be collectively addressed at global level throughout strong cooperation among regions. The Scenario 3 is very unlikely to be efficient.

# Scenario 4: “Sustainability for all”

- The production systems are transformed to accommodate climate-smart and sustainable agriculture and are becoming part of the circular economy
- Improvements in food production practices are achieved
- Consumers are adopting healthy dietary patterns
- Investments in R&D are made and specific targeted policies are implemented

FOCUS	POLICY OPTIONS
<b>Food Security</b>	Foresee incentives under CAP proposal for increasing and/or maximising agricultural production in the EU Foster uptake and knowledge-sharing of technology and digitalisation in agricultural production as driver for food security
<b>Climate change</b>	Continue to support global initiatives to reduce GHG Implementation of EU requirements at reducing GHG emissions, including in agricultural production
<b>Farmers</b>	Increase and improve CAP spending to support EU farmers through decoupled aid system as well as coupled aids to specific product with food security objectives Establish minimum thresholds for Member States to support investments in technology Authorise and provide access for new plant breeding innovation techniques to increase productivity
<b>Food safety</b>	Making sure that EU food safety standards are necessary, proportionate and consistent with other policy objectives and ensure that European food safety and quality standards are applied
<b>Consumers</b>	Increase support and investment in education regarding obesity and undernutrition and develop of a fully-fledged EU nutrition policy

Scenario 4 is the only path that addresses an increasing population in a sustainable way, while adopting healthy diets and preserving the environment

# How much more we should produce to feed the world in a sustainable way?

## Cereals

39% increase in global cereal production between 2012 and 2050



The production of **wheat** should increase by **24%**



**Corn** production should, in its turn, increase by **33%**



**Rice** production should, in its turn, increase by **33%**

## Livestock

The global meat production should increase less than 30% by 2050 compared to 2012.

Among the main sources of meat: pig, poultry and cattle, poultry represents more than 90% of the herd raising



The herd size of **poultry** would need to increase by **40%**

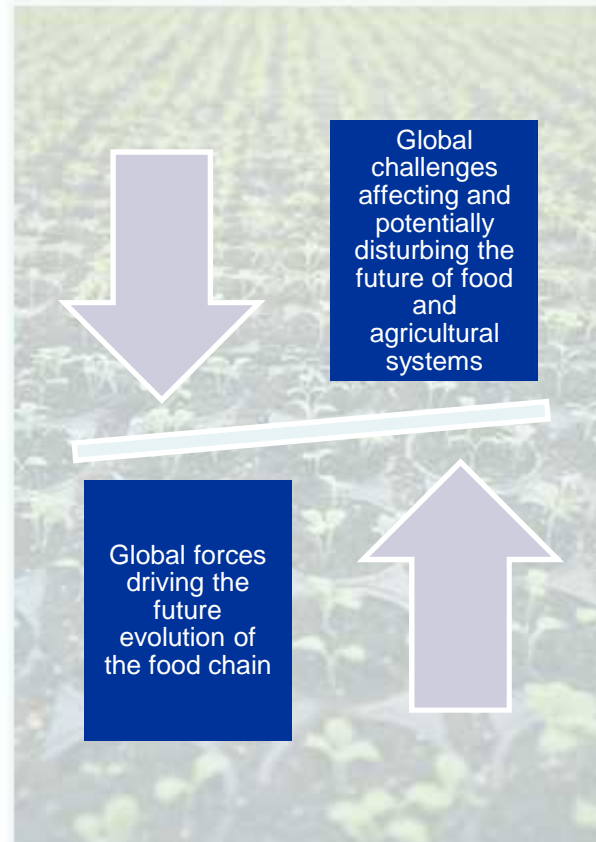
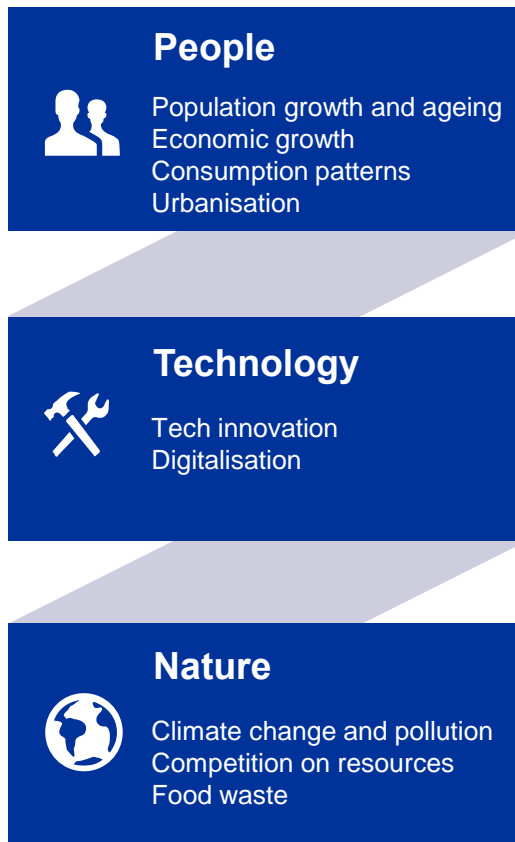


The herd size of **pigs** would need to increase by **10%**



The herd size of **cattle** would need to increase by **34%**

# Conclusions



**The way forward**

**Target “Sustainability for all” scenario and commit to:**

- strong environmental protection actions
- major improvements in food production practices via technology
- healthy dietary patterns

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**No need for increase in agricultural production by 50% in order to meet the SDG targets.**

Thank you for your attention

