



FOOD 2030

EU Research & Innovation for tomorrow's nutrition and food systems

Dr. Karen FABRI

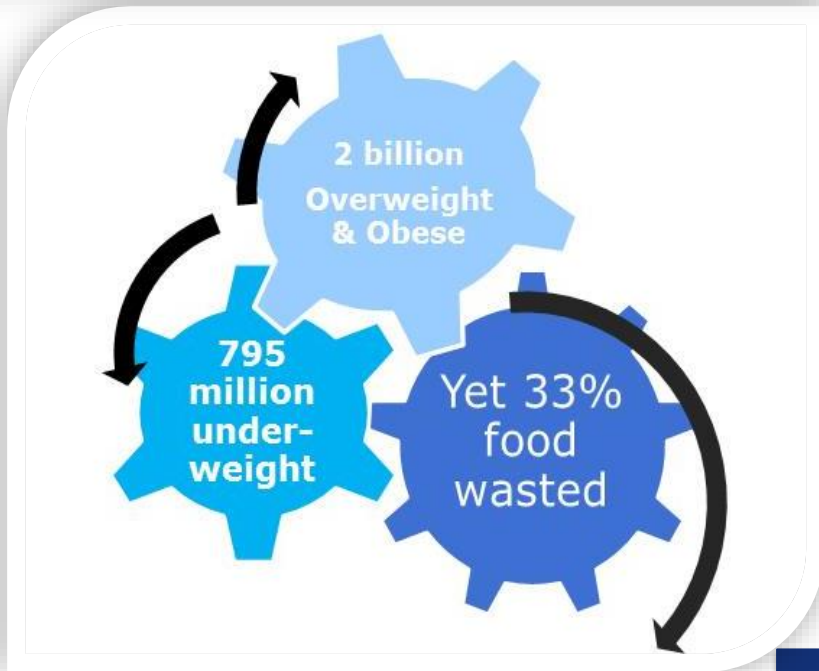
Head of Sector FOOD 2030
DG Research & Innovation
European Commission, Brussels



European Commission



A "Perfect Storm"





European Commission



Political Opportunity

Juncker Priorities & Modern CAP

10 priorities

- | | | | |
|----|--|----|--|
| 01 | A new boost for jobs, growth and investment. | 06 | A reasonable and balanced free trade agreement with the United States. |
| 02 | A connected digital single market. | 07 | An area of justice and Fundamental Rights based on mutual trust. |
| 03 | A resilient Energy Union with a forward-looking climate change policy. | 08 | Towards a new policy on migration. |
| 04 | A deeper and fairer internal market with a strengthened industrial base. | 09 | Europe as a stronger global actor. |
| 05 | A deeper and fairer Economic and Monetary Union (EMU). | 10 | A Union of democratic change. |

Sources: European Parliament, European Commission



Next post 2020 EU Framework programme (FP9)

New post 2020 EU Multi-Annual Financial Framework (MFF)

Support to evolving EU policies

Sustainable Development Goals



COP21+

IPCC





FOOD 2030

EU R&I Policy Framework to future-proof our nutrition & food systems



- Need for a systemic approach to future-proofing food systems by structuring, connecting and scaling-up R&I
- To provide **evidence** for policies and **solutions** (knowledge, methods, technologies, services, business models, etc) addressing 4 priorities.

Priorities

- NUTRITION** for sustainable and healthy diets
- CLIMATE** smart and environmentally sustainable food systems
- CIRCULARITY** and resource efficiency of food systems
- INNOVATION** and empowerment of communities

Drivers

- Research breakthroughs**
- Innovation and Investment**
- Open Science**
- International collaboration**

#FOOD2030EU

Achievements so far

**FOOD 2030: Research & Innovation
for Tomorrow's Nutrition & Food Systems**
High-Level Event, 12-13 October 2016, Brussels

Harnessing Research and Innovation for FOOD 2030
Science Policy Dialogue, 16 October 2017, Brussels



FOOD 2030 Next Steps

**Launch FOOD 2030
Expert Group**

Sept. 2017 to March 2018

**FOOD 2030 World
Food Day Conf.**

16 Oct 2017, Brussels

**Launch FOOD
2030 CSA**

Nov 2017 to end 2020

**MS Mapping
of Food
Systems R&I**

Dec 2017

**2nd FOOD 2030
High Level
Event**

21-22 June 2018

Plovdiv, BG



Possible ideas for future R&I?

Producer to consumer
Biofertilizers
Alternative proteins
Competitive businesses
Responsible food systems Cities and regions
Resilient food systems
Diverse food systems
Inclusive food systems
Sustainable food systems
Soil carbon capture Behavioural sciences
Food safety systems Resource efficiency
3-D printed food Vertical farms **Agro forestry**
Microbiome Functional foods
Rural growth Land and sea
Blockchain for traceability **DiY food science**

Example!



Bio-fertilisers for Plants



Problem:

Overuse of non-renewable chemical fertilisers

The Goal:

Reduction of classic synthetic fertilizers during crop production

R&I Needs:

Improved nutrient recovery

Innovate and scale-up waste treatments

Improved nutrient up-take, seed inoculation

Relevant Policies:

Food security, Circular Economy, Climate action, Revision of Fertiliser Regulation

Response to SDGs:



Example!



Fighting Food Waste



Problem:

Reduction of food losses and waste

The Goal:

Less agricultural waste is produced, more is reused and linked to applications through the bioeconomy

R&I Needs:

- Standardized food waste monitoring
- Shorter, sustainable food supply chains
- Valorisation/donation
- Technological & social innovation

Relevant Policies:

Circular Economy, CAP modernisation, Climate action, EU Waste policies

Response to SDGs:



Example!



Alternatives Proteins



Problem:

Increased global demand for protein
High carbon footprint of animal husbandry

The Goal:

Increased healthy & sustainable protein consumption
Reducing greenhouse gas emissions

R&I Needs:

Identify, assess, scale-up new or alternative protein sources
Characterisation of nutritional value & functionalities

Relevant Policies:

Food security, Climate action
Circular Economy, Novel Food Regulation

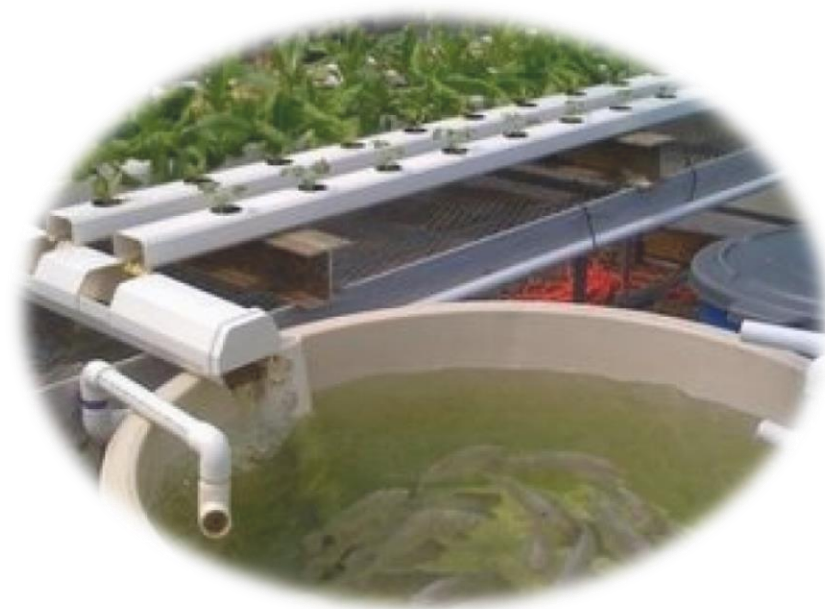
Response to SDGs:



Example!



Aquaponics



Problem:

European consumers reject the use of aquaculture;
Need to feed growing cities
Limited land for food production

The Goal:

Ecologically friendly production of crop plants and fish:
use of non-renewable resources with very high efficiency as indicated by near zero waste discharge

R&I needs:

Marketing plan and efficient communication strategies
Raise awareness about this new technology
Introduction of aquaponics as an economic activity
and the organic certification of aquaponics products.

Relevant Policies:

Circular Economy, CAP modernisation

Response to SDGs:



Example!



Smart Personalised Nutrition



Problem:

Unhealthy and unsustainable diets and eating behaviour have a negative effect on health, the environment and the economy

The Goal:

Develop personalised solutions to individuals & population groups

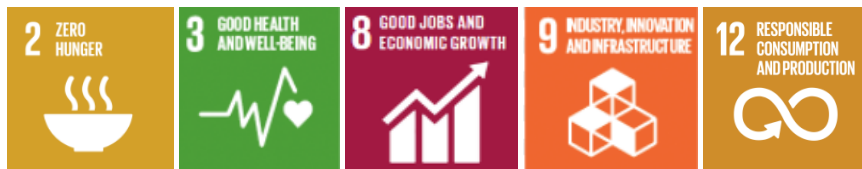
R&I Needs:

- Understanding behaviour, motivation, decision making – more social sciences
- New dietary assessment methods
- More Basic research & technological development
- Proof-of-principle studies to show effectiveness of personalised nutrition approaches

Relevant Policies:

Health strategy, Climate action, Jobs & growth

Response to SDGs:



Example!



Boosting Photosynthesis



Problem:

Increasing food and energy demand and decreasing area of available fertile land

The Goal:

Increasing crop yields through enhanced (C4) photosynthesis. Increase alternative energy production through artificial photosynthesis

R&I Needs:

Genetic research to boost crop production for food. Synthetic biology for artificial photosynthesis

Relevant Policies:

Climate action, Jobs & growth, Circular Economy

Response to SDGs:



Thank you!



Email: karen.fabbri@ec.europa.eu

Website bioeconomy directorate:
<http://ec.europa.eu/research/bioeconomy>

Twitter: #FOOD2030EU

Entry Points for changing food systems

From an R&I perspective:

- *Better understand and map food systems & their actors to determine best **leverage points** to tackle – no silver bullet – a systemic way of addressing the issue is the "silver bullet"!*
- *A systemic approach implies that all food systems actors need to come together to co-create solutions - R&I as a catalyst for dialogue and decision-making based on evidence*
- *Developing a compelling narrative that will raise political visibility of the FNS challenge and actually motivate collaborative action and investment at all levels (local to international)*
- *More emphasis on food system "governance" at all levels, including cities and regions*

Elements needing Strengthening

From an R&I perspective:

- *Inter and transdisciplinarity, SSH, ICT & smart technologies*
- *Systems science, complexity, filling data & knowledge gaps*
- *Exploring food-health nexus*
- *Commitment of R&I actors to societal "impact"*
- *Working together better – improved cooperation, participatory and responsible R&I – research, policy, industry & society (top-down & bottom-up)*
- *Getting this "systemic thinking" to take place in EU MS – whereby different ministries come together to devise joint solutions and ways forward*
 - Health & nutrition
 - Environment and agriculture
 - Research & innovation, education
 - Industry, competitiveness, economics
 - International development
 - ...

Improving Public Engagement & Knowledge

From an R&I perspective:

- *Call for participatory R&I engaging society and multiple actors upstream and throughout the R&I process for societal acceptability and relevance of solutions*
- *Tell compelling stories, showcase, demonstrate, use all media sources*
- *Involving "brokers" and "multipliers" like science museums & science shops to engage with citizens and kids*
- *More access to DiY and experimental spaces like Fab Labs*
- *Food systems curricula in schools and at university level*
- *More involvement of retails and restaurants at the interface with consumers/citizens*
- *More evidence-based nutrition training for doctors and health care workers also at eth interface with patients and citizens*
- *Fighting misinformation and alternative facts, building trust & transparency*
- *Open access to data, re-use, data sharing, interoperability*