Research & Innovation for tomorrow's nutrition and food systems

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A "Perfect Storm"

- 9 billion to feed by 2050
- 60% more food demand by 2050
- 2 billion overweight & obese
- Yet 33% food wasted
- 795 million underweight

**PRODUCING FOOD**
- Uses 70% H2O
- Uses 30% Energy
- Delivers 25% GHG

**2030 GOALS**
- Zero Hunger (SDG)
- Food waste by 50% (SDG)
- CO2 by 1.5-2°C (COP21)
Political Opportunity

Juncker Priorities & Modern CAP

2. A connected digital single market.
3. A resilient Energy Union with a forward-looking climate change policy.
4. A deeper and fairer internal market with a strengthened industrial base.
5. A deeper and fairer Economic and Monetary Union (EMU).
6. A reasonable and balanced free trade agreement with the United States.
7. An area of justice and fundamental rights based on mutual trust.
8. Towards a new policy on migration.
9. Europe as a stronger global actor.
10. A Union of democratic change.

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

The IPCC’s priorities for the next six years: 1.5C, oceans, cities and food security.
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
FOOD 2030 is Engaging with….

- MEMBER STATES
- INDUSTRY
- CIVIL SOCIETY...

- REGIONS:
Interregional cooperation:
Smart Specialisation Platform Agri-Food

>50 regions - 4 partnerships

Partnership 'High tech farming' Coordination Tuscany (IT)
Focus on value chains:
E.g. fruits, livestock, cereals, green houses

- CITIES:
Milan Urban Food Policy Pact - 159 signatory cities

Aim: stimulate action on food policy and practice from learning and exchange between signatory cities to the Pact

MPA 2017 Awards
Winner: Ljubljana Short Food Supply Chains In The City Of Ljubljana
Photosynthesis for Food & Energy

**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:
Alternatives to Meat

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:
Aquaponics for Agricultural Circularity

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.

Response to SDGs:
8

Relevant Policies:
Circular Economy, CAP modernisation
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 different population groups

R&I Needs:
Understanding behaviour, motivation, decision making – more social sciences
New dietary assessment methods
Technological development
Proof-of-principle studies to show effectiveness of personalised nutrition approaches

Relevant Policies:
Health strategy, Climate action, Jobs & growth
Fighting obesity with proper pre- and post-natal nutrition

**Problem:**
>50% of world's adult population obese or overweight
Childhood obesity present already in early pregnancy

**The Goal:**
New products & feeding practices in the pre-natal & childhood periods in order to prevent obesity

**R&I Needs:**
Research in physiology, development & programming
Innovation in public health systems to enhance societal awareness & consumer behaviour

**Relevant Policies:**
European Health, European Global food security policy, Circular Economy

Response to SDGs:
2. Zero hunger
3. Good health and well-being
Towards a healthy and sustainable African Diet

**Problem:**
Access to sustainable and nutritious food in Africa

**The Goal:**
Resilient food systems even in times of crises & war
Climate change adaptation & mitigation
Eco-friendly low waste food for cities and export

**R&I Needs:**
Agricultural systems delivering local nutrition for all
Crop diversification for improved nutrition in line with local culture
Physiological knowledge of nutrition

**Relevant Policies:**
Africa – EU Partnership, EU as a global actor
Food Security, Climate action, Common Agricultural Policy
## FOOD 2030 R&I ACTIONS

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- **Nutrition**: Alternative Proteins, Personalised Nutrition, Fighting obesity - pre- and post-natal nutrition
- **Circularity**: Fighting Food Waste, Sustainable Use of Land
- **Climate**: Bio-fertilisers for Plants, Farmers as Natural Resource Managers, Boosting Photosynthesis
- **Innovation**: Printing Healthy Meals for Elderly patients, Cities - Urban Farming
Milestones 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

**H2020 SC2 call 2018-2020 - A Response to the SDGs**
October 2017
Follow up with EP

- Negotiations for new MFF, FP9, and CAP reform gives scope for increasing investment for FOOD 2030.

- High Level Conference under the **Bulgarian Presidency** in Plovdiv on 14-15 June 2018.

- Welcome the opportunity to bring this all back to the EP on World Food Day 2018 for a joint discussion on progress.
Thank you!

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