Resilience against global challenges such as climate change depends upon the successful implementation of policies, actions and development strategies, which all need to be facilitated by high quality and efficient governance. Well run institutions operating under good governance are thus key determinants of long-term stability and sustainable growth, making relevant policy, addressing present-day challenges, and providing quality welfare and services. The many challenges related to Food Systems (FS), as well as their key impact on climate, sustainability, health, and livelihoods, have made clear that we urgently need to improve our FS governance beyond today’s predominantly fragmented and sectoral approach. In this respect, there are a number of major ongoing policy developments where the issue of research and innovation (R&I) governance will play a key role.
The major political goals of the EU Green Deal, the Farm to Fork strategy, the EU Biodiversity Strategy and the Bioeconomy strategy
- The Sustainable Development 2030 Goals and the COP21 objectives and commitments
- The challenges of rising populations and the need to feed 9 billion people, which will imply a 60% increase in food demand by 2050
- The increasingly unsustainable global demand for meat and animal products
- The 33% waste of our food while 800 million people go hungry and are underweight or malnourished
- The 2 billion people who are overweight or obese
- The 25-30% of our global greenhouse gas emissions, half of which come from meat production
- The 70% of global fresh water, and the 30% use of global energy production consumed in making our food
- The weak resilience and insecurity of our food system to respond to global shocks such as the COVID-19 pandemic

**THIS FOOD 2030 PATHWAY CAN DELIVER CO-BENEFITS FOR**

**Nutrition and health**
- Improving health wellbeing
- Reducing non-communicable disease
- Fighting hunger and malnutrition.
- Ensuring food safety and retaining the EU’s high food safety standards

**Climate and sustainability**
- Lowering GHG emissions and moderate changes in food consumption, such as reduced meat diets, could significantly decrease agriculture based GHG emissions. By 2070, emissions could reduce by 13% to 44% in connection with different types of diets.
- Improving biodiversity through better management of land and ecosystem services, and reduced application of harmful pesticides and fertilisers.
- Improving soil health and restoring degraded soils makes land more fertile, reduces soil erosion and captures greenhouse gas emissions.

**Circularity and resource efficiency**
- Reducing food losses and waste across all parts of the food systems – from farm to fork
- Valorising unavoidable waste for new products and uses as part of a circular and sustainable bioeconomy
- Improving circularity and resource efficiency in food production and manufacturing, supply-chain logistics and food services

**Innovation and empowering communities**
- Innovation via multi-actor and citizen engagement processes and structures that empower place-based communities to co-create food systems solutions that deliver co-benefits and mitigate trade-offs.
- Fostering inclusion and equity ensuring a balanced, just and fair food system transition – economically, socially and environmentally – which coherently address demand and trade-offs, and takes care of potential losers.
- Tackling food poverty and ensuring all have access to healthy sustainable food and diets.
RESEARCH AND INNOVATION ACTIONS NEEDED

The research and innovation needs are divided into four strands, which need to be aligned and mutually supportive. The pathway also needs to federate a wide diversity of food systems stakeholders and initiatives resulting from other pathways and intervention areas relevant to sustainable, healthy and inclusive food systems transformation.

Some of the key governance issues to be undertaken with respect to these four strands include:

- **UNDERSTANDING**: Increase and measurement of food systems research impact, assessment, analysis, modelling and decision support, mapping and monitoring food systems performance, investing in evidence-based communication, dissemination and knowledge exchange and building up a science-policy-society interface that is fit for purpose.
- **ENGAGEMENT**: Raising food systems awareness and public engagement, involving youth, monitoring the social transition progress.
- **ALIGNMENT**: Establishing a Food System Partnership and working in tandem with existing structures including the Standing Committee for Agricultural Research (SCAR) and its strategic and collaborative working groups, fostering food systems education and training, building an academic/university network to foster food systems transition.
- **DEPLOYMENT**: Creating a Food Systems Technology Observatory, fostering responsible innovation and investment, and supporting Bioeconomy demonstration, testing and deployment.

BARRIERS AND LOCK-INS

- Substantial policy, regulatory, financial, technological and behavioural barriers to overcome.
- Current food systems are too fragmented and slow to change.
- The true cost of addressing the ‘perfect storm’ would be billions in R&I, or sums much greater than that currently available.
- Difficulties in finding the right focus and ways to organise and mobilise available resources.
- Difficulties in keeping the urgency of the problem high on the political agenda.
- Difficulties in handling the complexity, maximising co-benefits and minimising trade-offs, and unexpected rebound effects.

ENABLERS OF CHANGE

- High recognition of need for governance structures and mechanisms for food system transition within Farm to Fork strategy and the EU Green Deal, in which R&I policy is highlighted as a key enabler.
- Food System Transition is strongly supported by international bodies such as the FAO, the IPCC, the IPES-FOOD report, the EAT-Lancet report, the EU Scientific Advisory Mechanism (SAM) food systems report, and the SAM food from the oceans report.
- Recognition is growing that food is not only a commodity/consumer good, but also an actual common good (SAM Food Systems report).
RELEVANT EU R&I PROJECTS

There are only two H2020 projects, which specifically address the issue of food systems R&I governance and food system change and transition. These are the FIT4FOOD2030 and SUSFANS funded for a total of EUR 9 million.

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<th>PROJECT</th>
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<tr>
<td>FIT4FOOD2030 - Fostering Integration and Transformation for FOOD 2030</td>
<td>2017 - 2020, 4 M. Selected under the SFS-2017 call the project aimed to establish a sustainable multi-stakeholder platform, at the level of cities, regions, countries, and Europe through three interlinked structures: (1) An ‘EU think tank’ to link EC and Member States and Associated Countries; (2) ‘Policy labs’ to increase and align public/private R&amp;I policies/programmes on FNS, building on and expanding existing national/regional networks; and (3) ‘City labs’ to develop/pilot action-oriented trainings for students, consumers, researchers and professionals linking Science Centres/Science Shops to networks of Milan Urban Food Policy Pact cities.</td>
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<tr>
<td>SUSFANS – Studies, metrics, integrated modelling and developing foresight for European sustainable Food and Nutrition Security</td>
<td>2015-2019, 5 M. SUSFANS’ overall objective was to build the conceptual framework, the evidence base and analytical tools for underpinning EU-wide food policies with respect to their impact on consumer diet and their implications for nutrition and public health in the EU, the environment, the competitiveness of the EU agri-food sectors, and global food and nutrition security.</td>
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POLICY CONTEXT

This pathway seeks to provide a way forward for future R&I policy in Europe and beyond. It is 1 of 10 FOOD 2030 Pathways for Action, which target key R&I leverage points for transitioning towards sustainable, resilient, healthy and inclusive food systems that leave no one behind. The FOOD 2030 Pathways for Action will help to underpin Horizon Europe, support evidence-based policymaking and implementation, foster education, skills and capacities, boost innovation and investment, encourage synergies and policy alignment. The achievement of these objectives will be assisted by a dedicated Horizon Europe Food Systems Partnership to be launched in 2023 that is expected to provide a multi-actor R&I governance platform and process to deliver co-benefits in line with the European Green Deal.