European Commission

A **strategic approach** to EU agricultural **research & innovation**

The draft paper in a nutshell

Why do we need a **strategic approach**?

Research is expected to address immediate problems while at the same time anticipating future needs. Today's research will guide tomorrow's farming solutions and approaches. Incorporating research and innovation activities into a long-term strategy will make it easier to identify strategic areas of short-, medium- and long-term interest, and so improve their overall consistency, sequencing and impact. Laying down strategic priorities for agricultural and forestry research in the EU will make it possible to reinforce synergies with Member States and non-EU research programmes.

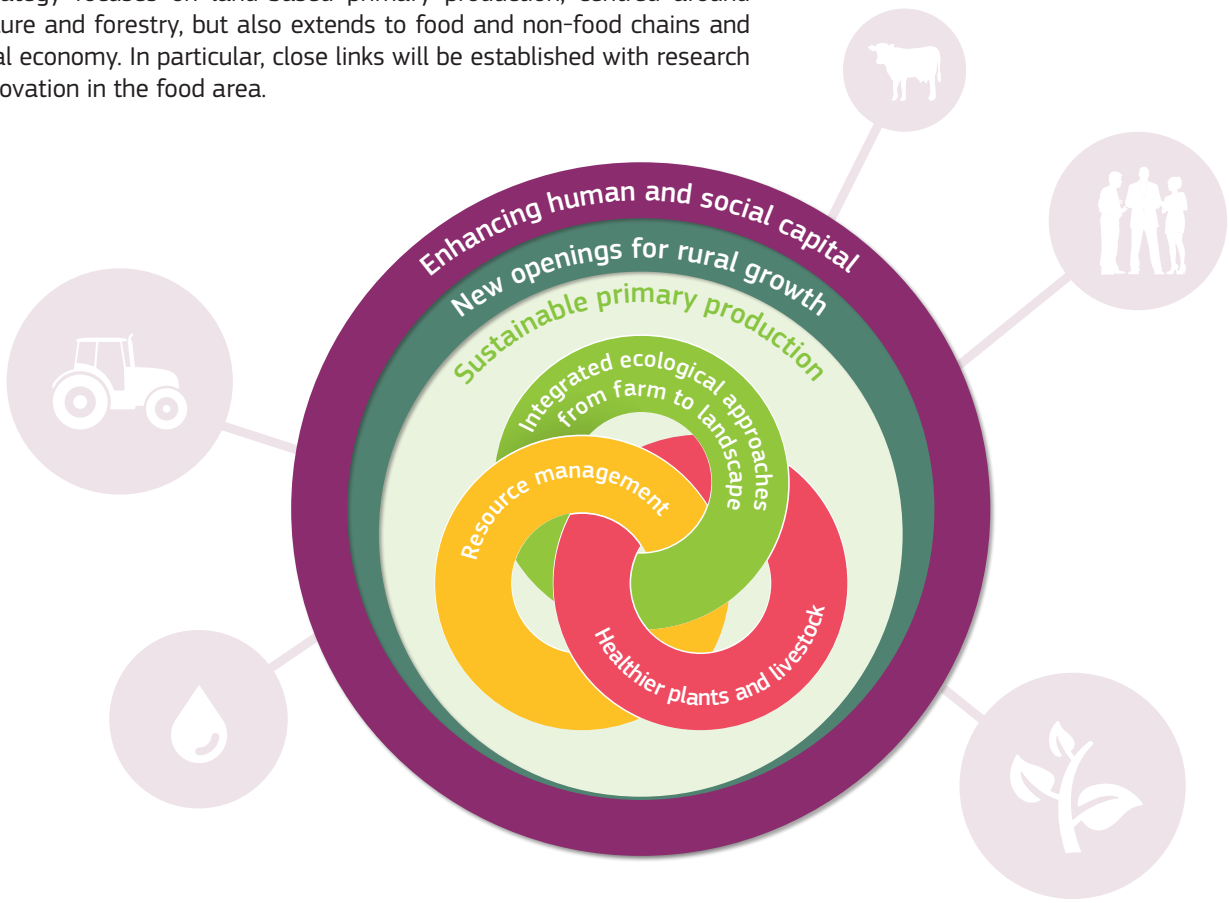
The strategy aims to harness EU investments in the framework Programme for Research and Innovation in view of the following main objectives: ensuring food security in the long term; addressing the environmental sustainability and resilience of land-based primary production as well as food and non-food systems; and boosting the sustainable growth of rural territories. In addition, the strategy seeks to improve the delivery of research for policy use.

Agriculture and Rural Development

What priority areas for **research** & **innovation**?

SCOPE

The strategy focuses on land-based primary production, centred around agriculture and forestry, but also extends to food and non-food chains and the rural economy. In particular, close links will be established with research and innovation in the food area.



CROSS-CUTTING ISSUES

Adopt a systems approach - Meeting the challenges facing the agricultural and food and non-food systems means working in an integrated manner so that the proposed solutions are fit for both the problem they address and the main objectives being pursued for the system as a whole.

Develop ICT as an enabler - Beyond assisting in primary production "Information and communication technologies" (ICT) has an immense potential to support many elements of the rural economy, from food and non-food supply chain management to new business development. ICT will also be an enabler in the research process.

Develop enabling sciences and infrastructures - Enabling sciences have a key role to play for the fundamental understanding of biological processes, from molecular biology to cells, organisms, populations and ecosystems. Sufficient attention needs to be granted to research and innovation infrastructures.

Embed socioeconomic research across a wide range of research and innovation areas – Socioeconomic research will be mobilised to support a range of policies impacting rural territories and food and non-food systems and play a key role in facilitating societal engagement.

CREATING VALUE FROM LAND: SUSTAINABLE PRIMARY PRODUCTION

Encouraging efficient resource management

- Safeguard long-term productivity of the sector and reduce impacts on ecosystems.
- Support strategies for adaptation and resilience vis-à-vis climate change and strengthen agriculture's contribution to mitigation of greenhouse gas emissions.
- Optimise urban and agricultural resources flows and encourage use of residues and by-products in a circular economy.
- Support resource efficiency and improve environmental performance in farming through ICT and other technologies.
- Improve soil fertility and functions by optimising its biological, chemical and physical properties.
- Reduce water consumption and water pollution by the agricultural sector.
- Preserve and make better use of genetic resources for plant and animal breeding.

Making animals and plants healthier

- Tackle animal and plant health with a systems-based approach.
- Operationalise one-health approaches.
- Encourage disease prevention.
- Strengthen tools to control pests and diseases.
- Provide producers with alternative approaches to pesticide and antimicrobial use.
- Deal with emerging risks.

Adopting integrated ecological approaches

- Encourage a better use of ecosystem services to strengthen the sustainability and resilience of farming systems.
- Explore the functional role of biodiversity in the delivery of ecosystem services.
- Support organic and other systems, especially mixed farming systems and agroforestry.
- Researching from molecular to landscape level.

ENHANCING RURAL INNOVATION: MODERNISING RURAL TERRITORIES AND POLICIES

Opening new avenues for rural growth

- Understand territorial dynamics and modernise policies.
- Organise sustainable food and non-food value chains under changing conditions.
- Better reward the provision of public goods.
- Take advantage of the digital revolution.

Enhancing the human and social capital

- Develop skills, education and training.
- Boost knowledge and innovation systems.
- Provide a conducive environment to participatory and systems-based approaches.

How will the strategy **be implemented?**

Being strategic about programming

- Main priorities of the strategy to be further specified in terms of developing more specific lines of action to feed into future programming activities.
- Periodical review of the strategy in the light of new foresights and consultations.

Encouraging synergies with Member States research and innovation activities

- Building the European Research Area (ERA) is a key objective of Horizon 2020. Within this, encouraging synergies between Member States and between Member States and the EU Framework Programme is essential for impact and efficiency.
- Finding the right balance between encouraging coordination and synergies and involving as many Member States as possible in the various activities of Horizon 2020.
- Building the ERA is a long-term process and a process of reflection needs to be engaged with Member States with the objective to strengthen it.

Developing international cooperation

- Key role in boosting the competitiveness of European economy and the capacity of the European research and innovation system itself.
- Supporting the EU's external policy dimension and ensuring coordination and leveraging effect in addressing challenges that can better be tackled internationally.
- Take recently adopted Sustainable Development Goals as guiding objectives.
- Activities in key areas to support sustainable agriculture and forestry and food security.

Boosting the implementation of research and innovation

- With the EIP-AGRI, the interactive innovation model is set in motion by a variety of measures and instruments under the CAP and Horizon 2020.
- Horizon 2020 implements the multi-actor approach - aiming to establish a process of genuine co-creation and implementation of knowledge - and supports knowledge exchange.
- Access to past and current project results to be facilitated and connections between evidence producers and users to be established for better policymaking.

Leaving more space for new approaches

- Provide enough space for new approaches, including social and economic innovation.

Developing synergies with the private sector

- The private sector has a significant role to play in the interactive-innovation model.
- Involvement of the private sector to be encouraged to boost the development of new technologies that help meet sustainable primary production objectives.
- SMEs to be given due attention.