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FINANCING PROGRAMS: HORIZON 2020

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Abstract

The paper aimed to present the financing program called Horizon 2020 and the importance of financing programs in agriculture. Agriculture and forestry have always had and maintain an important role for EU's society. Horizon 2020 has the political backing of Europe's leaders and the Members of the European Parliament. Horizon 2020 seeks to improve simultaneously the productivity and sustainability of agriculture and forestry while strengthening related food and non-food industries. It also seeks to empower rural communities to boost economic diversification and delivery of ecosystem services.

Key words**:** *agriculture, innovation, rural development, sustainable*

INTRODUCTION

Agriculture and forestry have always had and maintain an important role for EU's society: they supply reliable, healthy and nutritious food as well as feed and non-food products for a wide range of industries, shape and take care of our landscapes, provide public goods, and keep the countryside alive by providing jobs.

To ensure the sustainable development of rural areas, it is necessary to focus on a limited number of core priorities relating to knowledge transfer and innovation in agriculture, forestry and rural areas, to farm viability, to the competitiveness of all types of agriculture in all regions and promoting innovative farm technologies and the sustainable management of forests, to the organisation of the food chain, including the processing and marketing of agricultural products, to animal welfare, to risk management in agriculture, restoring, preserving and enhancing ecosystems that are related to agriculture and forestry, to the promotion of resource efficiency and the shift towards a low carbon economy in the agricultural, food and forestry sectors, and to promoting social inclusion, poverty reduction in and the economic development of rural areas. In doing so, account should be taken of the diversity of the situations that affect rural areas with different characteristics or different categories of potential beneficiaries and of the cross-cutting objectives of innovation, environment and climate change mitigation and adaptation. [4]

Horizon 2020 is the biggest EU Research and Innovation programme ever with nearly €80 billion of funding available over 7 years (2014 to 2020) – in addition to the private investment that this money will attract. It promises more breakthroughs, discoveries and world-firsts by taking great ideas from the lab to the market. [1]

MATERIALS AND METHODS

Seen as a means to drive economic growth and create jobs, Horizon 2020 has the political backing of Europe's leaders and the Members of the European Parliament. They agreed that research is an investment in our future and so put it at the heart of the EU's blueprint for smart, sustainable and inclusive growth and jobs.

By coupling research and innovation, Horizon 2020 is helping to achieve this with its emphasis on excellent science, industrial leadership and tackling societal challenges. The goal is to ensure Europe produces world-class science, removes barriers to innovation

and makes it easier for the public and private sectors to work together in delivering innovation.

Horizon 2020 seeks to improve simultaneously the productivity and sustainability of agriculture and forestry while strengthening related food and non-food industries. It also seeks to empower rural communities to boost economic diversification and delivery of ecosystem services.

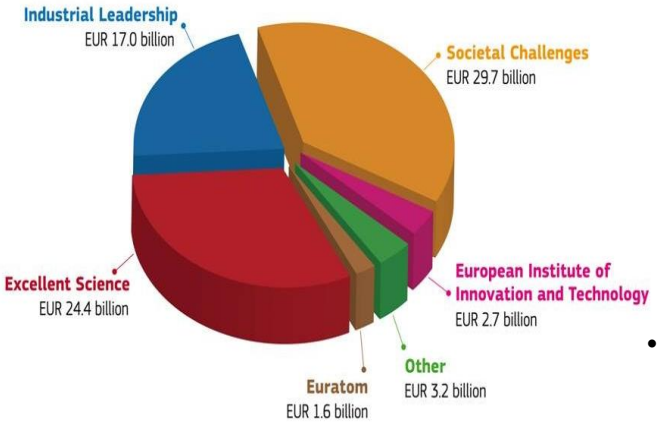

Fig.1. Horizon 2020 Budget

The challenges that the EU aims to address through Horizon 2020 are described in the Horizon 2020 [2]. According to this programme, research activities will:

- Improve production efficiency, sustainability and resilience. Enhancing productivity as well as the capacity of plants, animals and production systems to adapt to a rapidly changing environment and climate with increasingly scarce natural resources. The resulting innovations will help to move towards a resource-efficient agriculture and food and feed supply chains which consume fewer resources.
- Deliver more public goods and ecosystem services. Contributing to a better understanding of the complex interactions between primary production systems and ecosystems services. Supporting the provision of these public goods and services through the delivery of management solutions, decision-support tools and the assessment of their market and non-market value.
- Empower rural people and develop better policies.Strengthening rural communities' capacities for production and for delivery of ecosystems services. Fostering economic diversification, ensuring appropriate relations between rural and urban areas, as well as facilitating knowledge exchange, demonstration, innovation and dissemination. They will support policy makers in defining relevant strategies.
- Create more sustainable forestry. Promoting multi-functional forests which deliver a variety of ecological, economic, and social benefits. Focusing on the further development of sustainable forestry systems which can address societal challenges and demands, including forest owners' needs, by putting in place multifunctional approaches taking into account climate change.
- Build a sustainable and competitive agri-food industry. Addressing the needs for the food and feed industry to cope with social, environmental, climate and economic change from local to global. Projects will consider all stages of the food and feed production chain, including food design, processing, packaging, process control, waste reduction, by-product valorisation and the safe use or disposal of animal by-products.
- Support market development for bio-based products and processes. Opening new markets for biotechnology innovation, through in particular demand-side measures. Standardisation and certification at Union and international levels are needed for, amongst others, determination of bio-based content, product functionalities and biodegradability. Methodologies and approaches to life-cycle analysis will be further developed.

Horizon 2020 it is structured in three main pillars:

- Excellent science;
- Industrial leadership;
- Societal challenges.

Horizon 2020 is structured under three main pillars. There are opportunities for individual

researchers and groups of researchers to apply for funding in each of these pillars. The choice of pillar and underlying programme depends on what a researcher is looking for in terms of the size of project, whether it is basic or applied research, or whether someone is interested in moving to another country.

The three pillars are:

Pillar 1: Excellent Science. Excellence is the only criterion in this mostly bottom-up pillar. Under this pillar four different schemes are available:

-**European Research Council (ERC).** Excellent researchers with outstanding track records can apply to the ERC to carry out the frontier research project of their choice. Grants are available to researchers of any nationality, any age and at any stage of their career. The ERC is particularly keen to encourage excellent proposals from investigators of any nationality based outside Europe that wish to carry out a project with a host institution in the EU or Associated Countries. Projects may also involve team members from outside Europe.

-Future Emerging Technologies (FET) is a funding mechanism for collaborative 'high risk' research. It is geared specifically towards turning new ideas into new technology in a short time scale. FET will operate under three different streams:

- FET Open, a bottom-up up scheme open to all sciences.
- FET Proactive where topics are prescribed by a biannual work programmes.
- FET Flagships, multibillion programmes with a defined roadmap. Currently there are two flagships running: the Graphene and the Human Brain projects. These flagship projects issue their own calls.

-Marie Skłodowska Curie Actions (MSCA) fund mobility, training and career development in academia, industry and other non-academic sectors through individual mobility grants (individual fellowships) and projects. Fellowships are open to individual researchers of all nationalities with at least four years research experience or a PhD. To be eligible applicants should not have been in the host country for more than 12 months in the previous three years [3].

-Research Infrastructures: funding for e-infrastructures and access to infrastructures for researchers.

Pillar 2: Industrial Leadership. This is the Enterprise and Innovation Fund for collaborative research and innovation projects. Here the focus is on industrial involvement and applied research.

Pillar 3: Societal Challenges. Funding here is predominantly for collaborative projects, following a top-down approach with two-year work programmes of defined, challenge-based topics. Usually, a minimum of three legal entities from three EU Member States participate in these projects. There is no maximum number of partners. Project partners can be from any part of the world.

Under pillar 3, seven Societal Challenges have been identified:

1. Health, demographic change and wellbeing
2. Food security, sustainable agriculture, marine and maritime research and the bio-economy
3. Secure, clean and efficient energy
4. Smart, green and integrated transport
5. Climate action, resources and raw materials
6. Inclusive, innovative an reflective societies
7. Secure societies

There are mainly two EU instruments supporting specifically agriculture and forestry research and innovation: Horizon 2020 and Rural development policy. Many other EU policies addressing innovation and skills development in general can also contribute to agricultural research and innovation.

There are also opportunities for agriculture

and forestry in other parts of Horizon 2020, such as Climate action, SMEs, cross-cutting activities like Internet of Things and Circular Economy and parts dedicated to the bottom-up initiative Marie Skłodowska-Curie actions or research infrastructures.

RESULTS AND DISCUSSIONS

Alongside the bottom-up funding schemes within the Excellent Science pillar, the Commission will produce biannual Strategic Programmes specifying the focus areas for that particular period. These strategic roadmaps will form the basis of biannual work programmes under the three different pillars.

The work programmes will define the topics, challenges and the expected outcomes . They will also give details of call dates and deadlines, budgets, funding rates, and any other project-specific requirement. Calls will open every year.

To ensure the sustainable development of rural areas, it is necessary to focus on a limited number of core priorities relating to knowledge transfer and innovation in agriculture, forestry and rural areas, to farm viability, to the competitiveness of all types of agriculture in all regions and promoting innovative farm technologies and the sustainable management of forests, to the organization of the food chain, including the processing and marketing of agricultural products, to animal welfare, to risk management in agriculture, restoring, preserving and enhancing ecosystems that are related to agriculture and forestry, to the promotion of resource efficiency and the shift towards a low carbon economy in the agricultural, food and forestry sectors, and to promoting social inclusion, poverty reduction in and the economic development of rural areas. In doing so, account should be taken of the diversity of the situations that affect rural areas with different characteristics or different categories of potential beneficiaries and of the cross-cutting objectives of innovation, environment and climate change mitigation and adaptation. Mitigation action should relate both to limiting emissions in agriculture and forestry from key activities such as livestock production, fertilizer use and to preserving carbon sinks and enhancing carbon sequestration with regard to land use, land use change and the forestry sector. The Union priority for rural development relating to knowledge transfer and innovation in agriculture, forestry and rural areas should apply horizontally in relation to the other Union priorities for rural development.

CONCLUSIONS

The financing program called Horizon 2020 and the financing programs for agriculture are very important for the next sustainable development of agriculture and rural space. They prove that agriculture and forestry have always had and maintain an important role for EU's society.

Horizon 2020 has the political backing of Europe's leaders and the Members of the European Parliament.

Horizon 2020 seeks to improve simultaneously the productivity and sustainability of agriculture and forestry while strengthening related food and non-food industries. It also seeks to empower rural communities to boost economic diversification and delivery of ecosystem services.

REFERENCES

[1]European Commission, Horizon 2020 - The Framework Programme for Research and Innovation -
[2]Communication from the Commission, 2011
[3]European Commission, Horizon 2020 in Brief - The EU Framework for Research and Innovation, 2014
[4]League of European Research Universities, Social Sciences And Humanities: Essential Fields For European Research And In Horizon 2020, 2012