



# Study on the research, innovation and technology transfer capacities in the Western Balkans

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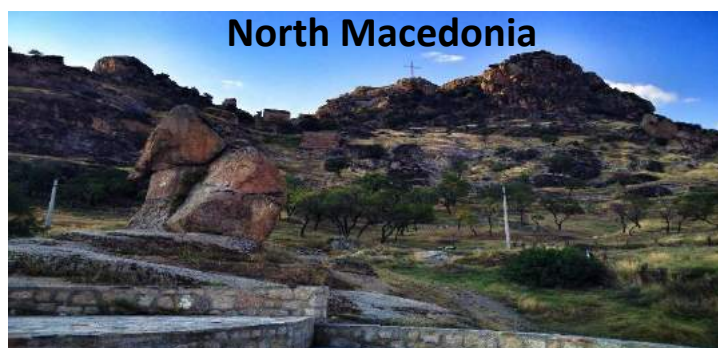
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*National Institute of the Republic of Serbia*



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- **Task 2: Assessment of research, innovation and technology transfer capacities in the agri-food sector in the WB countries**



# THE RESULTS

- **Individual country reports**
  - Analyses and interpretation of data obtained in each country, using all methodology approaches
  - Five chapters addressing all objectives of the project and Task 2
- **Regional cross country report**
  - General conclusions and recommendation for the whole region based on the analyses of the individual country reports
- **Final report**
  - Containig both



# Financial and human resources

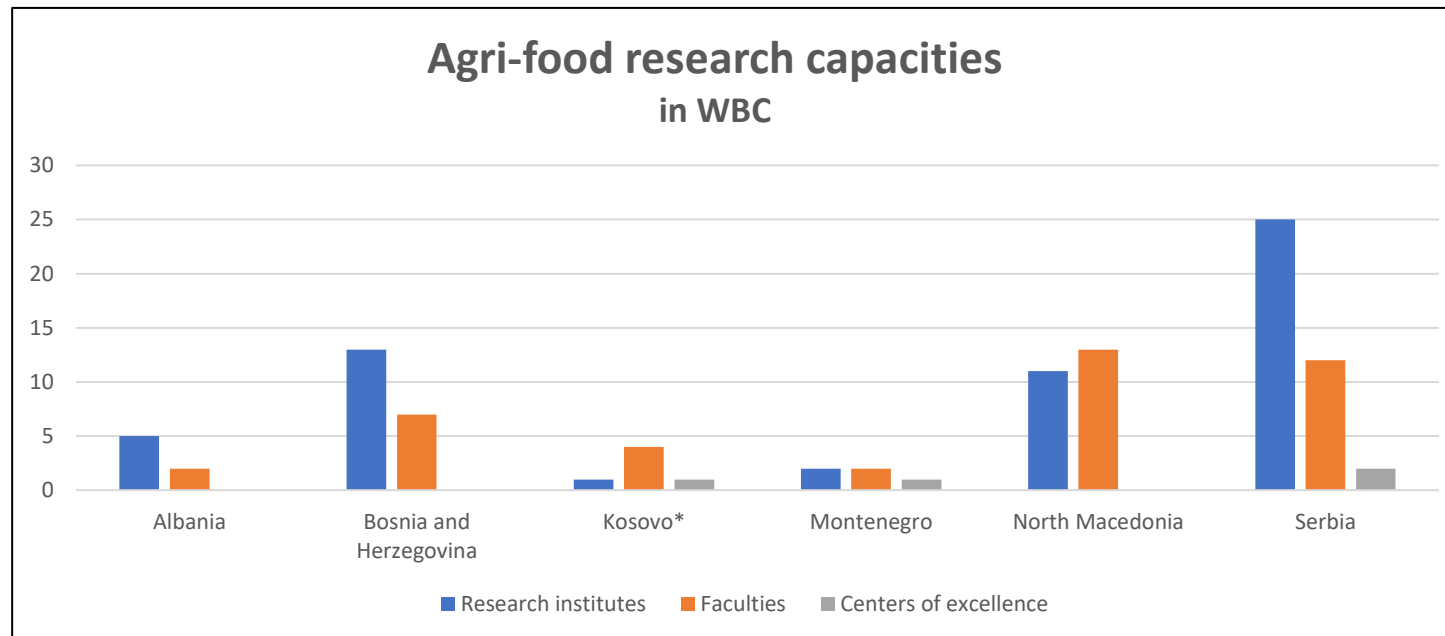
- In almost all WB countries **the level of investment in R&D is very low**
- **The human resources** in the research sector **are not equally distributed** across the WB countries
- The number of researchers **should be higher** in most of the countries and especially young researchers
- The latest data for Albania from 2008 (156) were not comparable with others from 2018

Country	The general expenditure for R&D (GERD) in relation to the GDP	No. of researchers per million inhabitants
Albania	0,20	155
Bosnia & Herzegovina	0,20	463,9
Montenegro	0,32*	714,3*
North Macedonia	0,36	728,9
Serbia	0,92	2079,2
Bulgaria	0,75	2130,5
Croatia	0,86	1865,4
Hungary	1,35	2924,0
Romania	0,50	890,2
Slovenia	1,86	4467,8
EU average	2,06	



# Strength of all relevant agri-food research capacities in the WB countries

- The agri-food research capacities are **not equally distributed** across the WB countries
- The existing institutions are mainly **old, with outdated equipment and poor infrastructure**
- Largely **dependent** on government budget funding
- **Research focus – heterogeneous**, includes almost all areas of agriculture and food technology, but **not always demand driven**
- There are **some positive examples**



# Advisory and extension services

- Organisation is very specific and different in each country
- Needs further improvement

	Federation of Bosnia and Herzegovina	Republic of Srpska	Montenegro	North Macedonia	Serbia	Albania	Kosovo*
Advisory and extension services	10 cantonal services as a part of the Ministry of agriculture	1 on entity level	3 (advisory services in plant production, livestock advisory - within Ministry, IFAD Rural Clustering and Transformation Project)	1 national extension agency + several NGOs that provide some services	35 regional extension services as part of the Ministry of agriculture	4 regional extension services as part of the Ministry of agriculture	1 NGO (Initiative for Agricultural Development of Kosovo*)



# The role and capacity of the education system

- Well developed educational system - faculties specializing in the agriculture field, food technology and biotechnology, and secondary schools with branches in agriculture
- Study programs NOT adapted to the labor market needs
- The most important financial source is the state budget
- Most frequently used sources of knowledge on new technologies: seminars, workshops, media, cooperation between research institutions.
- All institutions (faculties, schools and extension services) working with farmers to help to introduce new technologies.
- The institutions have significant but still not sufficient cooperation with the business sector



# The capacity of small agri-food firms to adopt innovations and new technology

- The small-scale and fragmented nature of private farming
- Capacity of **individual farmers, farmers' organisations, small agri-business firms** to adopt innovations and new technology is **insufficient**
- The most important **boosters** of knowledge and technology transfer and sources of information on innovations and technological development of small agri-food firms: **participation in fairs, advises from extension services, business clusters and business incubators**
- **Farmers' cooperation is encouraging** the transfer of knowledge, **but not sufficiently**

Indicator	Albania	Bosnia and Herzegovina	Kosovo*	Montenegro	North Macedonia	Serbia
No. of SMEs in agri-food sector	≈ 1800	≈ 2400	≈1000	<2700	> 2600	≈ 4000
% of the total number of SMEs	2	3.3 – 4.14	2.8	1.1	4	3.5
No. of farms	380000	>500000	>185000	>48000	>190000	> 560000
The average size of farms (ha)	1.2	1.51	3.2	6.3	2.5-2.8	≈ 5





# The role of other relevant stakeholders in agri-food sector



## Farmer's organizations

Small share of individual farmers included  
Lack of cooperation and trust

## Cooperatives

Small-scale, very little capacity for investment in research and innovation  
Most of the funding from international projects

## Business networks/clusters

Created to better sell on the markets  
Supported by foreign donor projects  
Lack of potential for innovation, new products and services development

Other agri-food capacities	Albania	Bosnia and Herzegovina	Kosovo*	Montenegro	North Macedonia	Serbia
Business incubators	2	15		2	17	4
Clusters		12		1	16	17

- FDI
  - Rarely enter the agricultural sector and even more rarely as greenfield investments (mostly as acquisition and re-branding of established brands)
  - They have contributed to the economic growth, exports, and employment, but insufficiently
  - Often contributed to deterioration of labor standards and environmental degradation
- Processing and retail companies
  - The most advanced agri-food processors are the wineries, dairies, meat processors, fruit and vegetable processors, milling and bakery industry, confectionary industry
  - The large retail companies have the strongest position in the agri-food chain
  - Some influence on agri-food firms in introduction/developing of new products
  - Some innovations in marketing activities
  - Online retail – especially evident during the period of COVID pandemic

# The role of Horizon Europe

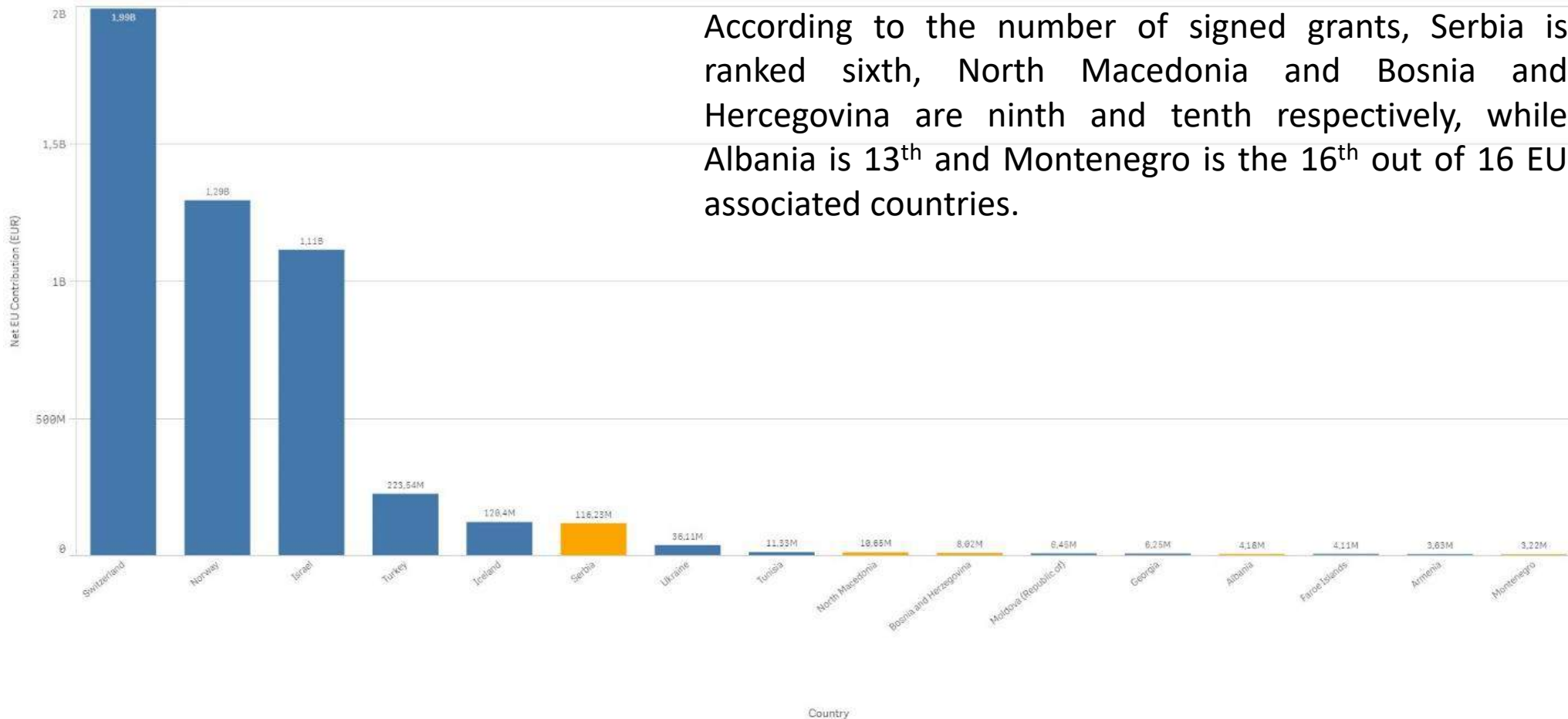
- **Research institutions from WB** - low success rate and minor participation in research projects funded by the HORIZONT 2020 program
- **479 projects** involving researchers from the Western Balkan countries **have been funded with a total of €142 million** under the program.
- **39 or approximately 8% belong to the program: Food security, sustainable agriculture and forestry, marine and maritime and inland water research, with the net EU contribution of 8.08 M EURs**
- **Only 12 SMEs** from the food and agriculture sector was involved in projects. The financial contribution for their involvement was approximately **1.26 M EUR or 15.6%** of funding dedicated to the food and agriculture sector.
- **Reasons** - very competitive programme, insufficient capacities in research and lack of international networking
- **Potential** - there are university professors and experts with significant experience in participation in the European programs FP7, Horizon 2020 and COST as well as in bilateral and multilateral cooperation



# The rank of WB countries among 16 associated countries according to the financial contributions received from the H2020 program



Horizon 2020 Contribution (EUR) to Associated Countries



According to the number of signed grants, Serbia is ranked sixth, North Macedonia and Bosnia and Herzegovina are ninth and tenth respectively, while Albania is 13<sup>th</sup> and Montenegro is the 16<sup>th</sup> out of 16 EU associated countries.

Serbia's overall success rate (11.6%) is very close to the average success rate of the whole H2020 program (12%)

Possible reasons:

- 21 National Contact Points
- Institutional support
- Administrative support
- MPNTR nominated members of Program Committees of the H2020 program
- Trainings, courses, presentations, seminars, webinars etc.
- Promotion of the H2020 program using different media (web pages, special TV programs, newspaper articles, workshops etc.)





# How Horizon and IPA could be adjusted to provide better support to agri-food sector

- Allocation of funds to targeted key areas for the agricultural sector in the WB
- Endorse more funds with more flexible conditions for strengthening the links between business, science and advisory services
- Introduction of a mentor institutional program of EU countries for institutions in the Western Balkan countries/territories
- Providing funds to EU institutes for the dissemination of knowledge and innovation in partnership with institutes in the Balkan countries



# CONCLUSIONS

- **Legislative and strategic framework for research exists**, in some countries/territories it is more complex;
- **Main challenges are:** implementation, allocation of financial resources and adequate capacities in research and innovation;
- **Links between science, advisory and the business sector exist partly**, but not fully functional, mostly on ad hoc basis.
- Number and value of projects implemented in **cooperation with the business sector is small**
- **Funds to support scientific research is very modest**, funds for research related to agriculture and food sector is even more modest.
- Individual farmers and SMEs have some, but **not sufficient capacities to adopt innovations** and new technologies
- Associations of agricultural producers and **cooperatives have modest activities** and scope
- **Transfer of new technologies** and knowledge are done mostly through trainings, practical demonstrations and study visits





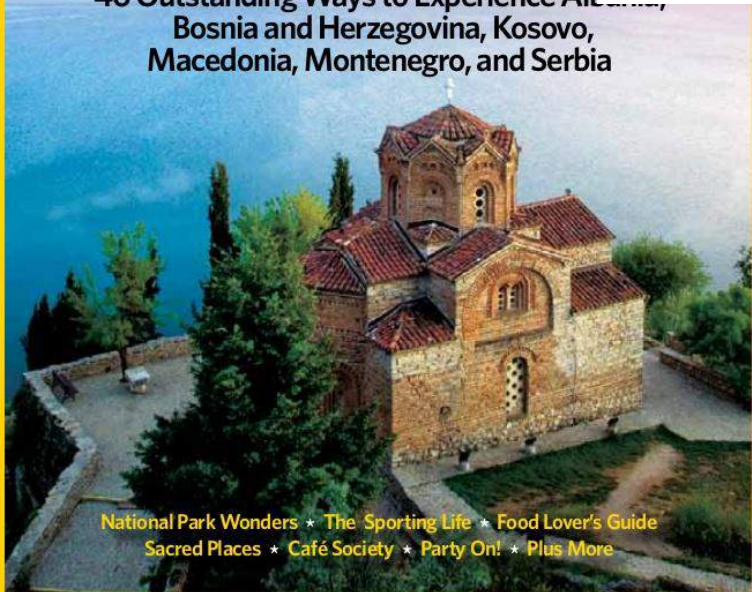
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# THE WESTERN BALKANS

## Land of Discovery

46 Outstanding Ways to Experience All...  
Bosnia and Herzegovina, Kosovo,  
Macedonia, Montenegro, and Serbia



National Park Wonders \* The Sporting Life \* Food Lover's Guide  
Sacred Places \* Café Society \* Party On! \* Plus More



Food Beyond



# Thank you for your attention!

