Balkan Agro Food Network

Support the opening of the European Research Area by developing a sustainable network in agricultural and food sector in the Western Balkan

Agri-food research
in the Western Balkan Countries:
Current situation and future needs

SYNTHESIS REPORT

This report is part of a project called "Setting up of an agricultural & food research network in the Western Balkan countries", which has been awarded financial support by the European Commission through Contract no. 026361 under the Sixth Framework Programme for Research, Technological Development and Demonstration Activities (2002 to 2006), and its specific programme 'Integrating and Strengthening the European Research Area – Specific measures in support of international co-operation'.

Foreword

This report forms part of the deliverables from "BALKAN AGRO FOOD NETWORK" (BAFN), a project which has been awarded financial support by the European Commission under the 6th Framework Programme. More detailed information can be found on the project website www.bafn.eu.

The BAFN project objective is to create a network of agri-food research groups, researchers and companies in the Western Balkan Countries (WBC) and to foster the cooperation in this field with the European Union (EU) scientists. An objective of BAFN is to establish recommendations on:
- The scientific fields from the agri-food sector that are suitable for cooperation and EU support
- Support mechanisms which could be implemented by the EU to help the development of the research potential from the WBC in the area of agricultural and food research.

The project started in May 2006 and covered four countries: Albania, Bosnia and Herzegovina, the Former Yugoslav Republic Of Macedonia (FYROM) and Serbia. Although some basic data about Montenegro and Kosovo under UNSCR 1244 are provided in the first chapter of this report, the geographical coverage is limited to the four countries.

CONTENT

Introduction

Many EU citizens have little knowledge on the Western Balkan Countries. Too few know basic information for example that FYROM is an official candidate country to EU membership since 2005, that Podgorica is the capital of the Republic of Montenegro or that Serbia and Montenegro were a federation between 2003 and 2006 (this ended with a referendum organised in Spring 2006 which resulted in the independence of the Republic of Montenegro in June 2006).

An objective of the BAFN project was to help EU researchers involved in agri-food research to learn more about their colleagues from the Western Balkan Countries (WBC). Several activities have been implemented to learn about the current situation and to provide insights for future needs: setting-up of a directory of agri-food companies and of research organisations, expert panel meetings to discuss future needs, consultation of experts and researchers and preparation of several reports.

This report summarises the main findings of the BAFN project. It aims at determining scientific fields from the agri-food sector which are suitable for cooperation between the European Union (EU) and the Western Balkan Countries (WBC) as well as support mechanisms that could be implemented to help maintaining the research potential from the WBC in the area of agricultural and food research. A detailed methodology is given in annex 1.

The major findings of this report are summarised in a Position Paper which presents a list of scientific fields considered as the priority areas for the agri-food sector in Albania, Bosnia and Herzegovina, FYR of Macedonia and Serbia. It also includes a description of support mechanisms that could contribute to answer specific problems of research organisations from the WBC.

1) Introduction to the Western Balkan Countries

The Western Balkan Countries (Albania, Bosnia and Herzegovina, the Former Yugoslav Republic of Macedonia, Montenegro and Serbia) all together represent around 19 million habitants for an area of 207,800 km^2. It is roughly equivalent to less than half of the surface and population of Spain.

	Population in Mln habitants	Area in thousands Km^2
Albania	3,1	28,8
Bosnia and Herzegovina	3,8	51,2
FYROM	2,0	25,7
Montenegro	0,6	13,8
Serbia	7,4	77,5
Kosovo under UNSCR 1244	2,0	10,9
Total	**19,1**	**207,8**
EU-27	*490,7*	*4 640,5*
Spain	*43,0*	*504,9*

Source: Eurostat, data for 2005

The former Yugoslav Republic of Macedonia (FYROM) is an official candidate country to the European Union since December 2005. Accession negotiations have not started. The four other Western Balkan countries are all potential candidate countries.

The economy of the Western Balkan Countries is characterised by:

- The lowest Gross Domestic Products (GDP) in Europe

In the Western Balkan Countries, the GDP is roughly equivalent to 10% of the GDP per capita of the EU-27. Serbia has the highest GPD per capita (around 3,000 €), followed by FYROM (2,300), Bosnia and Herzegovina (2,200) and Albania (2,100). As a comparison, the GDP per capita of Spain was 24,200 € in 2006 and the one of Bulgaria (the lowest in the EU 27) was 7,500 €.

- A higher growth of GDP than in the EU-27

The annual growth rate of the GDP is on average one point higher than in the EU-27. In 2005, the growth rate of GDP (% change of previous year) was 4.9% while it was 3.7% in the EU-27. For the same year, the growth was the highest in Serbia (6.2% in 2005), followed by Albania (5.8%), Bosnia and Herzegovina (4.3%) and FYROM (4.1%).

- A very high unemployment rate

In the EU-27, the average unemployment rate was 8% in 2005. In the Western Balkan Countries, the unemployment rate is on average 30%: 44% in Bosnia and Herzegovina, 41% in Kosovo, 37% in FYROM, 30% in Montenegro, 21% in Serbia and 14% in Albania where the agricultural sector acts as a buffer against unemployment. As a comparison, the highest unemployment rate in the EU-27 was 17.7% in 2005 (in Poland) and the lowest 4.3% (in Ireland). Except for Albania, there is no trend for a reduction of unemployment in the WBC.

- The important place of agriculture in national economies

In the EU-27, agriculture accounts for less than 3% of the total Gross Domestic Product (with wide disparity from 0.9% in Belgium to 12% in Romania). In the Western Balkan Countries, agriculture plays a significant role: it represents between 10 and 12% of the total GDP in Bosnia and Herzegovina, in FYROM and in Serbia. The dominant role of agriculture in national economies is also demonstrated by its importance in the employment: agriculture represents around 20% of total employment in these three countries. Albania's situation is particular as agriculture plays the most significant role in the national economy of the country in Europe: it represents 20% of the total GDP and 58% of total employment. Overall, the importance of the agricultural sector is comparable to that of Romania (12% of the total GDP, 32 % of total employment).

	Unemployment rate	**GDP per capita in €**	**GDP growth**	**Share of agriculture in GDP**	**Share of agriculture in total employment**
Albania	14,1%	2 099	5,8%	20,7%	58,5%
Bosnia and Herzegovina	43,9%	2 249	4,3%	10,3%	20,5%
FYROM	37,3%	2 298	4,1%	12,8%	19,5%
Montenegro	30,3%	1 898	4%	12,5%	8,6%
Serbia	21,1%	2 832	6,2%	11,9%	23,3%
Kosovo under UNSCR 1244	41,4%	940	3,2%	NA	18,8%
EU-27	*8%*	*23 400*	*3,7%*	*2.6%*	*7,4%*
Romania	*13.6%*	*8 100*	*4,1%*	*12.2%*	*32,6*

Source: Eurostat, data for 2005

2) Overview of the agri-food sector in the Western Balkan Countries

The agri-food sector of the Western Balkan Countries is characterised by:

- Natural conditions rather favourable for agriculture

In Albania, FYROM and Serbia, the natural conditions (soil and climate) favour agriculture although mountainous areas limit the area available for crop production. Natural conditions are less favourable for Bosnia and Herzegovina. The Utilised Agricultural Area represents between 40% and 55% of the total area (40.9% in Albania, 42% in Bosnia and Herzegovina, 48.8% in FYROM and 54.9% in Serbia). The total UAA in these four countries reaches 9.6 Mln hectares (as a comparison, the UAA of the EU-27 is around 183 Mln hectares, it is 25 Mln in Spain and 14 Mln in Romania).

- A farming sector handicapped by small farms and low productivity

Agricultural holdings are small and fragmented: in Albania, only 6% of farms are bigger than 2 hectares while in FYROM, the average farm size is estimated at 1.4 hectares. There is no trend for an increase of the size of agricultural holdings. This highlights the importance of agriculture as a safety net for employment and hinders the possibility to improve productivity and competitiveness. In FYROM, around 20% of the agricultural area is still owned by the state and rented to agricultural companies. The countries face structural problem that hinder the development of the sector such as the uncertainties regarding land ownership, low investments and low technological levels. Many food products are sold on green markets in small quantities.

- An agri-food industry not fully exploiting its production potential

The food industry has a high significance in the WBC even if not used as its full capacity due to lack of investments. In Albania, the food industry employs around 10,000 persons in around 2,000 companies, in Serbia the sector employs around 100,000 persons (see detailed figures per sub-sectors in the *Review Document*). Investments in new factories and modern equipment are needed. The four countries are today net importers of food products.

- Several sub-sectors are of specific importance:

Milk and meat products are important for the four countries. Only Serbia is a major crop producer: Serbia represents around 50% of the total agricultural area and almost 70% of the cereal production from the four countries. The cereal production of Serbia reaches around 5 Mln tons (as a comparison, the cereal production of the EU-27 is about 315 Mln tons, it is 13 Mln in Spain and 19 Mln in Romania).

When looking at the importance of sub-sectors in the GDP and in exports, the following specialisations can be underlines:

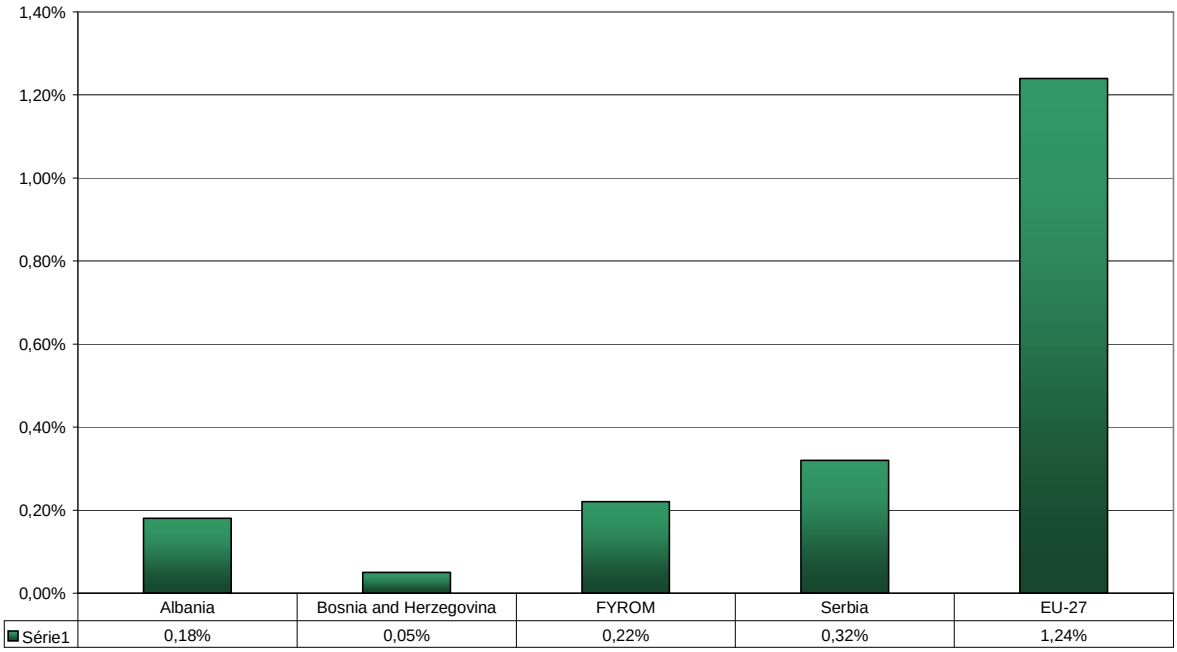
- Meat, fish products and beverage for Albania
- Dairy products, meat products, fruits and fish products (trout) for Bosnia and Herzegovina
- Wine, tobacco, lamb meat and vegetables for FYROM
- Cereals (maize in particular), meat products, fruits and vegetables for Serbia

3) Overview of the R&D context in the Western Balkan Countries

Given the economic difficulties encountered in the four countries, their research systems are experiencing difficulties.

The R&D context is characterised by a very low funding of research. The share of GDP allocated to research is lower than in the EU-27: it is 0,18% in Albania, 0,05% of GDP in Bosnia and Herzegovina, 0,22% in FYROM and 0,32% in Serbia[1] (as a comparison it is 1,4 % in the EU-27 and 0,39% in Romania). The GDP from the WBC being on average equivalent to 10% of the GDP from the EU, the resources made available for research can be considered extremely low.

Gross Domestic Expenditure on R&D (GERD) as % of the GDP



The research community is rather small. There is no reliable statistics on the number of researchers. Available estimates indicate the following: 2,300 scientists in Albania, 255 R&D personnel and 1,800 researchers in FYROM, 22,500 employees and 11,600 researchers in Serbia[2].

There is a need for capacity building and better programming of the research policy. The "*2007 Progress report*" published by the European Commission in November 2007 indicates the following:

Bosnia and Herzegovina: "*As regards research, Bosnia and Herzegovina's science and research potential is in a critical condition. The training of a new generation of researchers is not being undertaken, most of the research infrastructure is obsolete or in the need of repair. Bosnia and Herzegovina has not developed a countrywide research policy framework*".

FYROM : "*Little progress can be reported in the area of* ***scientific research,*** *development of technology and development of a culture of technology, which received an allocation of € 4.3 million (less than 1% of GDP), which is the same as last year. (…) Budgetary constraints and weak institutional capacity continue to impede the development of research*".

Serbia: "*Overall, Serbia is relatively advanced in the development of legislative framework for education and research. However, substantial efforts are still needed to further develop the two sectors and to link them to the economic context. An improved institutional framework and a better defined programme are needed to ensure further progress.*"

[1] Source : Report on RTD Needs of the WBC from SEE-ERA.NET
[2] Source : Science and Technology Country Reports from SEE-ERA.NET

4) Overview of agri-food research in the Western Balkan Countries

The agri-food research community is small: in the four WBC covered by the study, it is estimated that there are 47 research entities involved in agri-food research including 17 universities. It is estimated that there are between 3,450 and 3.650 researchers (FTE) scattered into 325 research groups.

Overview of the agri-food research capacity

	Albania	BiH	FYROM	Serbia
Total number of research organisations	10	9	9	20
Of which universities	2	7	3	5
Total number of researchers (FTE)	300	350-400	500-550	2300-2400

Source: estimates from BAFN

The main research players are the following:

Albania

- **9 research organisations divided into 29 research groups**
- **2 Universities, 1 academy of science, 5 centres of agricultural TT and 1 institute**

1. Agricultural University of Tirana (AUT) (5 faculties)
2. University of Korca Fan S. Noli
3. Academy of Science
4. Institute of Food Safety and Veterinary-Tirana
5. Centre of Agricultural Technology Transfer-Korca
6. Centre of Agricultural Technology Transfer-Lushnja
7. Centre of Agricultural Technology Transfer-Shkodra
8. Centre of Agricultural Technology Transfer-Fushe Kruja
9. Centre of Agricultural Technology Transfer-Vlora

Bosnia and Herzegovina

- **9 research organisations divided into 29 research groups**
- **7 universities and 2 institutes**

1. Džemal Bijedić University of Mostar
2. University of Banja Luka
3. University of Bihać
4. University of East Sarajevo
5. University of Mostar
6. University of Sarajevo
7. University of Tuzla
8. Federal Agricultural Institute of Sarajevo
9. Institute for Genetic Engineering and Biotechnology

FYROM

- **9 research organisations divided into 73 research groups**
- **3 Universities, 1 academy of science, 5 other organisations**

1. University „Ss Cyril & Methodius„
2. University St Kliment Ohridski
3. State University Goce Delchev
4. Macedonian Academy of Science and Arts (MANU)
5. Macedonian Scientific Association (MDN)
6. Agency for motivating the development of agriculture
7. Institute GAPE
8. RR-group 2006
9. State Phytosanitary Laboratory

Serbia

- **20 research organisations divided into 194 research groups**
- **5 Universities, 13 institutes, 2 others organisations**

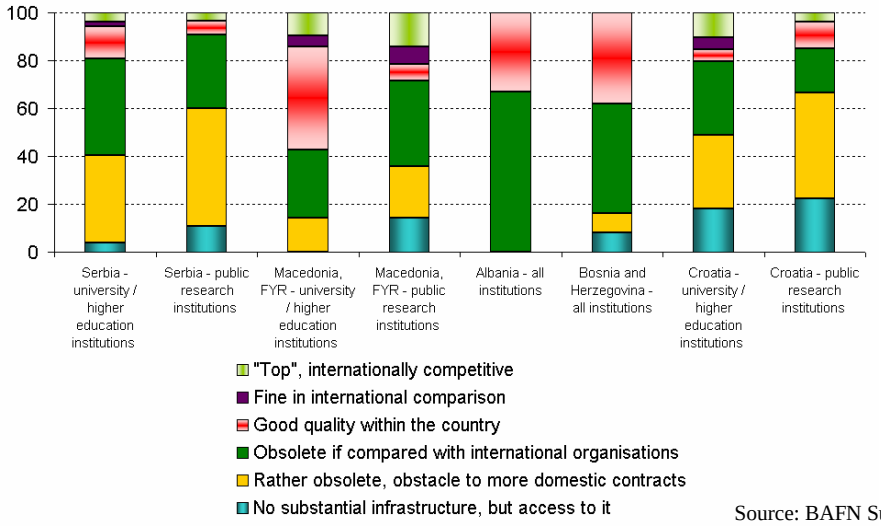
1. University of Belgrade (5 faculties, 9 institutes)
2. University of Kragujevac (1 faculty)
3. University of Nis (3 faculties, 1 school)
4. University of Novi Sad (4 faculties, 2 institutes)
5. University of Pristina (1 faculty)
6. Centre for Multidisciplinary Studies of the Belgrade University
7. Fruit Research Institute
8. HP Institute of General and Physical Chemistry
9. Institute for Animal Husbandry, Belgrade-Zemun, Serbia
10. Institute for Forage Crops
11. Institute for Medicinal Plant Research Dr. Josif Pancic
12. Institute for Oncology and Radiology of Serbia
13. Institute for Plant Protection and Environment
14. Institute for Vegetable Crops
15. Institute of agricultural economics
16. Institute of Chemistry, Technology and Metallurgy
17. Institute of Field and Vegetable Crops
18. Maize Research Institute
19. Pesticide and Environment Research Institute
20. Research and Development Centre for Small Grains

The architecture of each organisation (division in research groups), the contact details of each groups as well as detailed information about researchers working in these research groups (with a list of recent publications) can be consulted at **www.bafn.eu/research**
In 2008, this directory contains information for 220 research groups and 610 researchers.

The results of the mapping survey are presented in the document "AgriFood Research in the Western Balkan Countries"[3]. Some of the main findings are summarised below:

- The vast majority of the agri-food research units have obsolete and outdated technological infrastructures. According to the survey, more than 60% of the research groups evaluate their infrastructure as obsolete or rather obsolete. In FYROM and in Serbia universities and institutes belonging to high education seem to have more developed infrastructures than public research institutions.

Quality of the research infrastructure

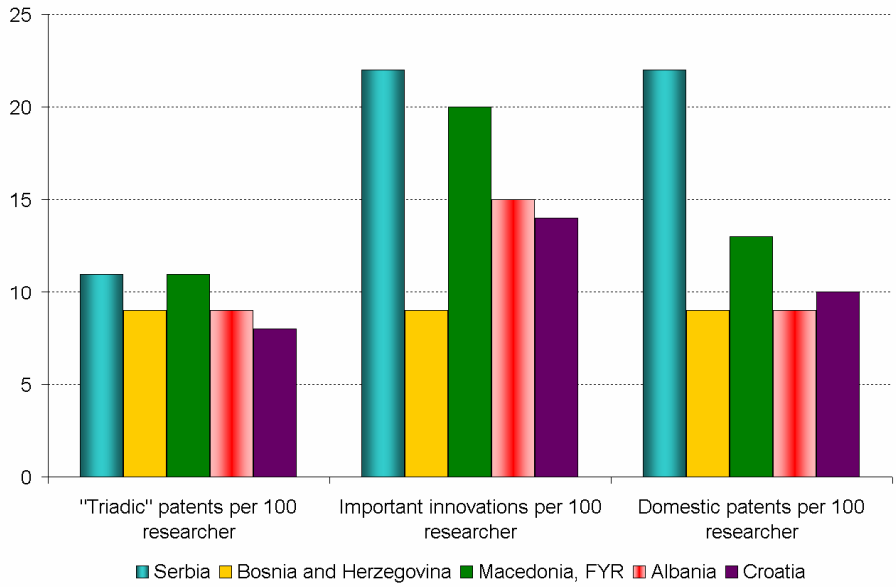


Source: BAFN Survey, March 2008

[3] A questionnaire administered to research groups has enabled collecting information about the agri-food research activities, capacities and competencies. More than 185 questionnaires have been collected, representing around 40% of the existing research groups. The representativeness is good for Serbia (answer rate of 64%), medium in FYROM (42%) and poor for Albania and Bosnia and Herzegovina (answer rate of 31 and 33% respectively).

- When looking at innovation performance, Serbia and FYROM seem in a better position than Albania and Bosnia-Herzegovina.

Innovation indicators 2003-2005



Source: BAFN Survey, March 2008

- The European Union strongly contributes to the implementation research projects with a critical mass. The survey helped to identify the number of "large research projects" implemented since 2005. A large research project is defined as a project with a total budget above 100,000 € in which the research organisations' share is at least 20,000 €. The results indicate that the EU is contributing to more than 50% of these large projects.

Number of large agri-food research projects[4] on-going or started in 2005

	Serbia	Bosnia and Herzegovina	FYROM	Albania	TOTAL
Number of large research projects	227	18	89	44	378
Of which					
Project supported by the EU	116 (51%)	14 (78%)	46 (52%)	18 (41%)	195 (51%)

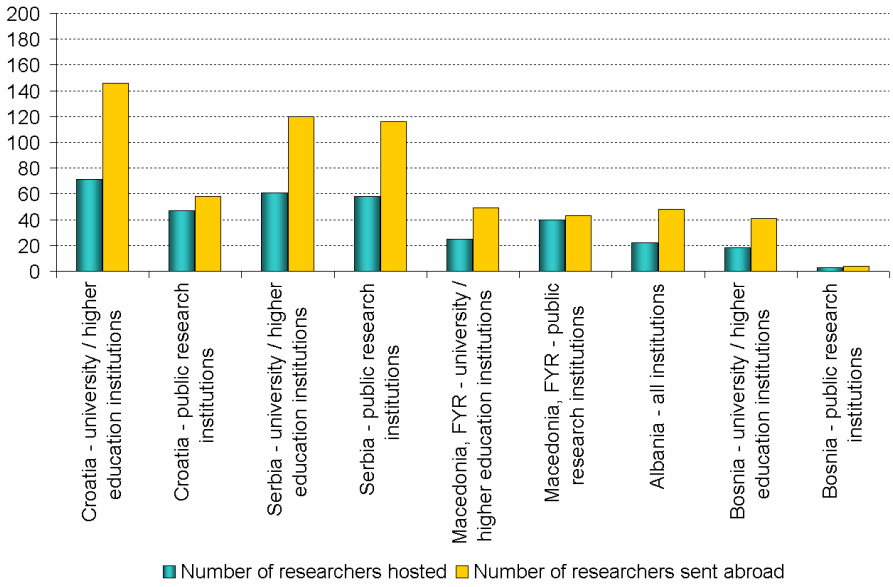
Source: BAFN Survey, March 2008

- The ability to attract foreign researchers is poor, researcher mobility is low. In Serbia in 2003-2005 the total number of foreign researchers hosted for more than 1.5 months (without those, who came to acquire a Ph.D. degree) in the period 2003-2005 was 119, at the same time the number of researchers sent abroad to do research for at least 1.5 months was 236. At the same period Croatia[5] hosted 118, sent 204, Albania hosted 22, sent 48, Bosnia hosted 21 and sent 45, while FYROM hosted 65 and sent 92 researchers.

4 total project budget above EUR 100 thousand, research organisations' share above EUR 20 thousand

5 The project partially covers Croatia as a similar survey was implemented in Croatia through the FP6 EU AGRI MAPPING project (www.agrifoodresearch.net) also coordinated by EUROQUALITY.

International researcher mobility 2003-2005



Source: BAFN Survey, March 2008

- <u>According to the BAFN survey, food technology and plant science appears as major research areas:</u>

The importance of the research areas can be measured in several ways (number of researchers, number of scientific output, researcher mobility). According to the number of researchers, the following areas seem important (more than 50% of the researchers work in the following scientific fields):

- "plant production and protection", "management of natural and biological resources" and "animal health" for Albania
- "economic, social and political aspects", "food technology" and "plant production and protection" for Bosnia and Herzegovina
- "economic, social and political aspects", "management of natural and biological resources" and "plant production and protection" for FYROM
- "economic, social and political aspects", "plant production and protection" and "food technology" for Serbia

5) Which support mechanisms could help the agri-food research community from the Western Balkan Countries ?

During the four expert panel meetings organised in 2007, discussions took place to identify support mechanisms that could help the research community from the agri-food sector[6].

- The discussion revealed that a primary necessity was to increase the budget available for agri-food research (increase of salaries, purchase of equipment etc.).

- The support of research projects by bilateral and international programmes has been identified as in important factor of development. Strengthening relations with the industry was also mentioned as a way to support the development of agri-food research.

- In all the countries, the importance of the research mobility has been underlined (education of young scientists abroad, stimulation for the return of scientists).

- Finally, emphasis has been given on the need for training at all ages of a research career (training on ICT for all scientists has been mentioned at one meeting).

Development of agri-food research infrastructures:

As indicated in the BAFN survey of the agri-food research groups, research infrastructures are obsolete. The participation of the agri-food scientists in research project supported by the EU or by bilateral agreements is recognised as an indirect way to support the modernisation of research infrastructures. The mechanisms proposed include:

- Direct financing by the state through the co-financing of the purchase of new equipment and consumables.
- Tax relief (exemption of VAT) on the price of the research equipment and consumables.
- Encouragement of co-financing by the private sector (industry).

The necessity to learn about the current situation of the agri-food research infrastructure (which equipment?, which age?) has also been underlined together with the importance of support to finance the purchase of consumables.

Development of the human potential in agri-food research:

In order to strengthen the human potential, the following mechanisms are proposed:

- Stimulate researcher mobility through the organisation of staff exchanges with research organisations from other countries (in particular young researchers and PhD.).
- Stimulate and provide financial support for the organisation and the participation to conferences and training courses.
- Facilitate the access to the principal European network of computers for research and education-GEANT.
- Facilitate the access to scientific journals and electronic databases (Science Direct, Web of Science, ISI databases and etc.).

[6] These results has been validated through the consultation of researchers: a questionnaire has been administered to the 600 researchers registered on www.bafn.eu. 115 answers have been collected.

6) Which scientific fields are interesting for cooperation ?

The four expert panel meetings helped to identify the scientific areas suitable for cooperation between the European Union (EU) and the Western Balkan Countries (WBC). Two points of views have been retained: areas for which cooperation would help to develop existing research capacity and areas for which cooperation would help to answer future needs[7].

➢ Strengthening the agri-food research capacity: areas recommended by WBC researchers

As indicated in section 4 page 12, the survey indicates food technology and plant science as important research areas in the Western Balkan Countries. During the expert panel meetings, these two sectors have been confirmed as traditionally important (before and after 1990). Animal science (animal breeding, animal husbandry and animal nutrition) have also been quoted as important areas. Besides these "traditional" research areas, research in food safety has been identified as a priority in the four countries.

The specific areas can be mentioned:
- Research related to fishery and to medicinal plants in Albania and in Bosnia and Herzegovina
- Research related to the biodiversity with the preservation of indigenous species and traditional food products.

➢ Answering future needs: areas recommended by WBC researchers

The following areas have been retained as important challenges for the future:

- Research in typical national food products, biodiversity conservation
- Research on zoo noses which have influence in human health and in animal production
- Quality systems on food technology
- Sources of food allergens
- Food safety: chemical contaminants in food, food allergens and toxins in food
- Dietary supplements

➢ The point of view of EU representatives:

The consultation from NCP and members of the Programme Committee helped to identify the following areas as interesting for cooperation between WBC and the EU:

- Bio-diversity conservation & environmental protection
- Preserving national biological and genetic resources
- Animal husbandry, animal feed technology
- Food biotechnology, nutrition and dietetics
- Food biochemistry, microbiology, toxicology & biotechnology
- Sources of food allergens

➢ SUMMARY: scientific fields recommended

1) Biodiversity:	conservation of genetic resources & indigenous species
2) Food safety:	chemical contaminants in food, food allergens and toxins in food
3) Animal science:	animal husbandry and zoonose
4) Food biotechnology:	nutrition and dietetics

[7] These results has been validated through the consultation of researchers from the WBC (115 answers) of NCP (14 answers) and members of the Programme Committee (7 answers).

7) Ideas for projects

Title	Preservation of indigenous species and traditional functional food products in the WBC
Rationale	There are many indigenous species and traits – animal, plants and microorganisms in the WBC with which many typical foods used to be produced and their production is diminishing gradually due to old-fashioned technologies and low productivity. At the same time those products are important for those countries concerning their dietary value and the influence on public health and overall quality of life ('adding life to years'. New technologies with low salt and fat levels and preservation methods should be developed in this respect.

Title	Investigation of the regional genetic resources in the WBC (plants and microorganisms)
Rationale	There are organisms in the WBC biodiversity which have unique behaviour and features – they can have much higher drought resistance, heat resistance (plants), to produce toxins against insect pests (bacteria) etc. Those species might serve as a source of gene isolation to be used in the new modern plant biotechnology, plant farming and pharmaceuticals, production of edible plant vaccines, production of pest resistant plants etc. Some plant extracts might serve as a source of antioxidant substances and to have a high dietary value concerning oncogenesis.

Title	Improvement and creation of new research infrastructures in the WBC
Rationale	One of the main obstacles for development of high quality science and technology is the obsolete research equipment and the lack of highly developed centers to serve as research infrastructures per se. This puts the question of opening the existing research facilities for a national and transnational use, by exploiting European grants and creation of new, more powerful research infrastructures in the field of agri-food research.

Conclusion

The Western Balkan Countries (WBC) are small (20 Mln habitants for an area 207.800 km^2, it represents less than half of Spain) and their economies are lagging behind the poorest countries of the EU-27 (GDP three time lower, unemployment three times higher than in Bulgaria and in Romania).

The agri-food research system of Albania, Bosnia and Herzegovina, the Former Yugoslav Republic Of Macedonia (FYROM) and Serbia is characterised by its small size: it is estimated that there are 3.500 researchers involved in the sector. The research capacity is very fragmented with the existence of more than 45 research organisations including 17 universities involved in agri-food research. A major difficulty is the very low budget available for research: the Western Balkan Countries GDP per capita is around 10 times lower than the average EU-27 and the share of the GDP allocated for research is well below the average of the EU-27. Without any increase of the financial resources, the future of agri-food research in the WBC is jeopardised.

A key message for those in charged of programming research cooperation is that **a small effort will have a big impact**. The EU through the FP7 but also EU Member States through bilateral programmes can provide support to the agri-food research community from the WBC. This study was aimed at providing recommendations for such programming. These recommendations can be summarised as follow:

- Mechanisms that could help agri-food research in the WBC:

1) Incentive for the purchase of research equipment and consumables (through co-financing, exemption of VAT).
2) Stimulate researcher mobility and training through the organisation of staff exchanges and the support to participation to conferences and training courses.
3) Facilitate the access to scientific journals, electronic databases and to the principal European network of computers for research and education –GEANT

- Suitable areas for cooperation in agri-food research:

1) Biodiversity (conservation of genetic resources & indigenous species)
2) Food safety (chemical contaminants in food, food allergens and toxins in food)
3) Animal science (animal husbandry and zoonose)
4) Food biotechnology (nutrition and dietetics)

- Ideas of research projects in the agri-food sector:

1) Preservation of indigenous species and traditional functional food products in the WBC
2) Investigation of the regional genetic resources in the WBC (plants and microorganisms)
3) Improvement and creation of new research infrastructures in the WBC

Annex: methodology

The scientific fields and support mechanisms have been identified in the following process:

a) Preparatory work

- Four country reports, called Review documents (available at www.bafn.eu/foresight_reports) have been drafted: these reports describe the current situation of research and industry environment related to Agri-Food sector in Albania, Bosnia and Herzegovina, FYR of Macedonia and Serbia. A SWOT analysis of the scientific and industrial agri-food sector has also been performed for each country.
- A mapping exercise looked at the research activities, capacities and performance through a one year survey: 183 research groups from the four above mentioned countries have participated in this survey. Four National Mapping reports and a consolidated report were prepared.

b) Expert panel

One Expert panel meeting has been organised in each WBC. The aim of these meetings was to prepare recommendations on scientific fields and on measures which could efficiently support agri-food researchers from the WBC. The National Mapping Reports were also discussed at these meetings. Between 9 and 14 stakeholders (mostly scientists but also officials from Ministries and representatives from the industry) participated to each panel. Following each meeting, four country reports with a list of scientific fields and examples of support mechanisms have been prepared.

c) Consultation

- In order to validate the conclusions of the expert panel meetings, a questionnaire has been administered to researchers from the WBC: 114 answers have been collected.
- A consultation of EU representatives has also been organised with a survey among National Contact Points and Members of the Programme Committee of the theme 2 of the FP7.
- Finally, the results have been discussed with representative from the European Commission and members of the BAFN projects during a meeting organised in Paris on the 28 March 2008.