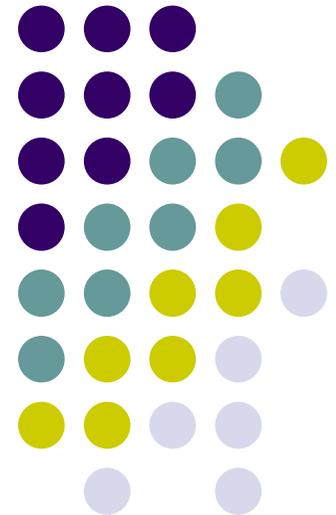
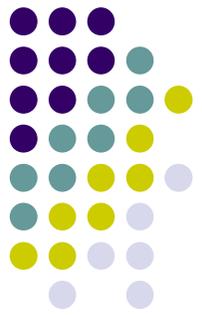


Achieving Teaching Goals of Bologna Process in Higher Education in B&H, and Neglecting Research Programs and Policy

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Balkan peninsula



Ethnic groups

Albanians	Greeks	Moldovans	Russians	Turks
Bulgarians	Hungarians	Montenegrins	Serbs	Ukrainians
Croats	Italians	Muslims	Slovaks	International boundaries
Gagauz	Macedonians	Romanians	Slovenes	



Location of BiH within Balkans

- BiH is situated at western part of Balkan peninsula of Southern Europe with an area of 52.280 square km. According last official census in 1991. recorded 4,4 milion people and today estimation is 3,9 milion. Capital city is Sarajevo.
- GDP estimation 2008. is US\$ 43.000 billion.
- Per Capita US\$ 10.700.

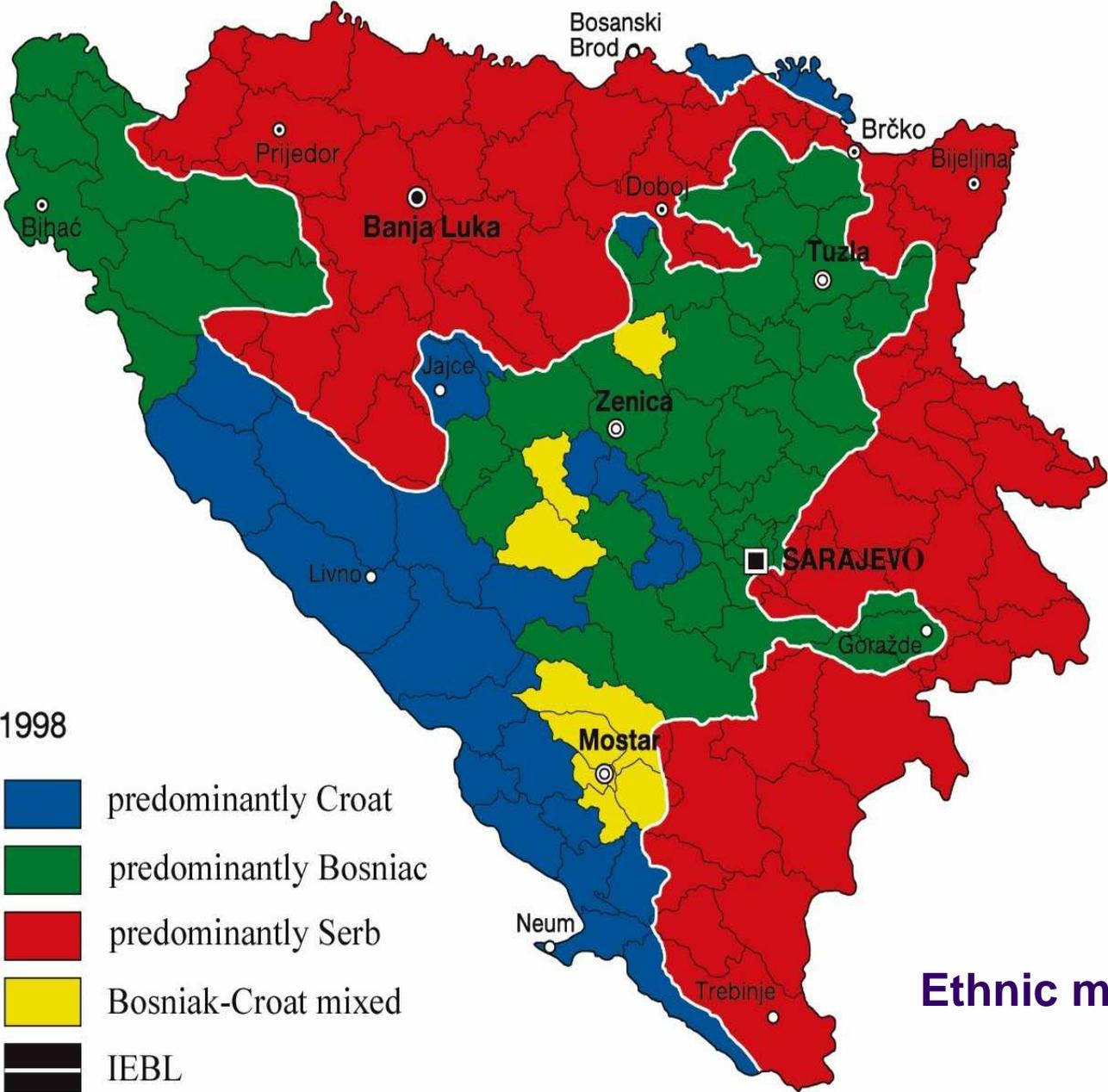


Education of Bosnia and Herzegovina

- To be able to understand the education system(s) of Bosnia and Herzegovina it is important to stress that it is a country administratively divided into two entities:
 - the Federation of Bosnia and Herzegovina (51%) and
 - the Republika Srpska (49%).
- Federation of Bosnia and Herzegovina consists of 10 Cantons further divided into municipalities.
- Republika Srpska is administratively divided into 7 regions and further into municipalities.
- The territory of Brčko, which was under arbitration, became a separate district under the authority of Bosnia and Herzegovina.



Divided country divided education

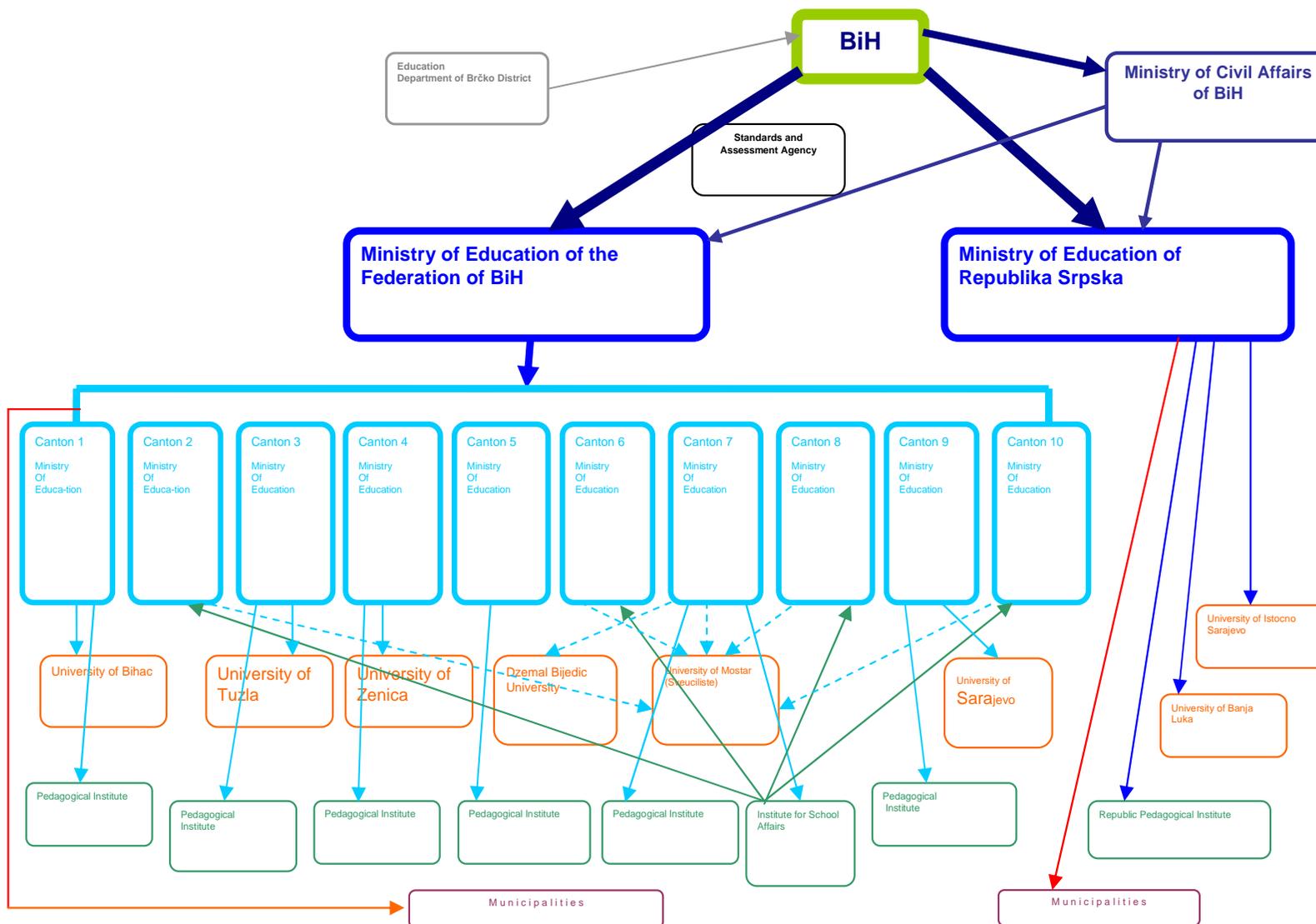




Schematic representation of the education system

STRUCTURE OF THE EDUCATION SYSTEM IN BOSNIA AND HERZEGOVINA

INTER-MINISTERIAL COORDINATION BOARD





Higher Education in Bosnia and Herzegovina

Due to the administrative and political separation, the result led to BiH with a very complex school system. It is an **asymmetric and astigmatic system**, which does have an excellent base expressed in the Education Reform Strategy proposed by the OSCE and which was signed by all entity and cantonal ministries in Nov. 2002. This Strategy is still not being implemented, there is no unified educational policy, the unique values are not nurtured, nor are the common educational goals being set and worked towards.

At the University of Sarajevo, my home institution, we desire to implement the OECD recommendation for the teacher to work 50% of the working time as a teacher and other 50% of their time doing research, but according to the current situation, this is very difficult. One professor can barely designate 10-20% of their time to do some research.

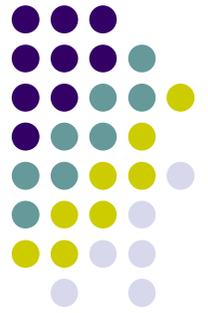


Higher Education in Bosnia and Herzegovina

If you have at least 3 courses to teach in 1 semester and three courses in the next, this makes up 6 courses a year (which is approximately the norm for professors), and if each of these courses is attended by 80-100 students, this means you teach and follow up the work of some 500-600 students per year. If you have at least 2 examinations during the semester, besides regular evaluation of the students work, even with a teaching assistant that spends 1/3 of their working time with you (as they work with another 2 professors) you can barely find 5 hours of time to sleep at night. We do not give up ofcourse! We keep on searching for time and financial means that will allow us to have more assistants and to be able to conduct research.

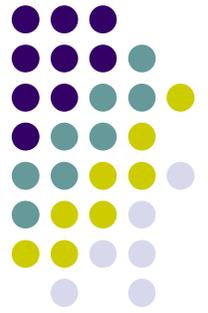
The problem of financing high education and research is very acute problem in BiH.

Research and development in higher education in Bosnia and Herzegovina



- Before the war (1992-1995) BiH was one of the SFRY republics, and had designated 1,5% of funds for research.
- Currently, the amount of these funds is less than 0,1%
- At the same time, education (elementary and secondary) in BiH is being contributed with similar funds as those prior to the war, which are some 6% and are above regional average
- If this situation lasts more longer, if there is no science and research for developing, then university professors are not in **research and scientific condition** – they are just compilers – which we could not handle even prior to the war.

Research and development in higher education in Bosnia and Herzegovina



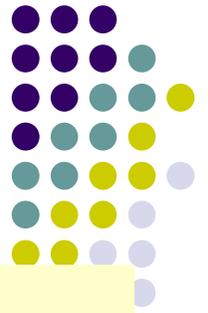
- Without scientific research, the country is at a resource crisis and environmental negligence and catastrophe.
- Without science, there will be no new work-places, and will be subjected to staff-drains. We should keep in mind that it is always the best staff that leaves first.
- Investment in education at a rate higher than the regional average, without investment in science, means we are educating professionals for others. This is probably the worst type of investment.
- 26% population live below minimum
next 50% live modest,
next 20% live good, and only
4% live very good (over 4000 KM per household)

Financing Research and Development in Higher Education in Bosnia and Herzegovina



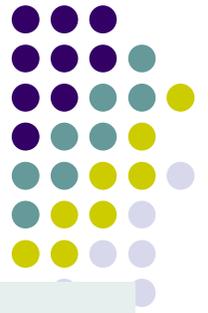
- A significant portion of financing the scientific-research work is done by the Government.
 - The Government should provide a smaller portion of the allocated funds for the scientific-research work directly to the University for the reconstruction of research infrastructure, and the rest should be made available through public calls for applications for scientific-research projects.
- The EU has projected that by the year 2010 some 3% from the GDP should be invested into the scientific and research fields.
 - Funds of the EU for scientific and research work are still difficult to access.

Analysis of our own weaknesses



- Scientific and research work at the Faculties, that is University has a very low and contradictory status
 - Faculties are, at the present, a very poor environment for conducting scientific and research work. There is simply no time and space for it.
 - While choosing candidates for different positions the emphasis is on the number of works published, very little attention is paid to the quality and structure of these works.
- The results lead to formal choices, led by subjective reasoning and by giving trust to professors that are more compilers rather than researchers.

How others see us



Strengths:

- Good theoretical education
- Long-term existing tradition
- Dedication to teaching and education work

Weaknesses:

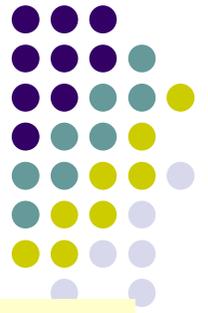
- Weak management
- Very little practical work
- Poor communication with industry and practice
- Unadapted curricula with regards to modern production
- Lack of professional human resources
- Unreadiness of the industry to finance scientific or research work



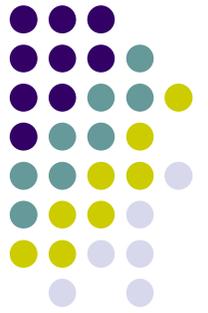
Outside factors

- Lack of scientific and research infrastructure
- Insufficient Governmental support to the scientific and research funds
- Lack of linkages with international research and academic networks
- Lack of a strong industry that is willing to support scientific and research work, and which would benefit from the results
- Lack of official mechanisms for increasing popularity of scientific findings

Significance of research and development in higher education in BiH



- Production of new knowledge
 - Must be used for the social and economic development of the country
 - Many of the MA/PhD thesis were used for gaining references and not for social benefits and development
 - Staff involved in research and development is located at universities, not in the industry and economy
 - Insufficiently developed network of research institutes
- Production and verification of future scientists



Population and Higher Education in BiH

12% of BiH population has a tertiary level diploma (8% in two and three-year duration and 4% in four year duration)

- In the past school years,
Have gotten their PhD, and MA:

	2004/05	2005/06	2006/07	2007/08
PhD	171	270	252	354
MA	47	79	108	103

Short Statistical Overview of Higher Education in BiH



School year 2007/2008:

- **Universities: 8 public (6 in FBiH + 2 in RS)**
- **Faculties (colleges): 136 faculties and academies**
- **Students: 101.200 (68 200 in FBiH + 33.000 in RS)**
- **Professors/lecturers with PhD and MA: 5.620 (3 018 in FBiH + 2.600 in RS)**
- If these numbers are to include other staff and workers in higher education, those numbers go up to 9.000. This means that the Universities in BiH currently include (whether it is workers or students) some 110.000 BiH citizens
- Out of 1,000 citizens, some 25.9 are students, and if we add to that professors, lecturers, advisors, and other staff in higher education some 28,2 thousand citizens are involved in one way or another with the higher education process.



Illustration of the state of research and development in BiH in comparison with other former Yugoslav republics through the number of published scientific work in journals (per 100.000 inhabitants)

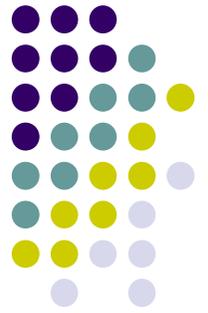
COUNTRY	1990	2000
Montenegro	1,79	3,41
BiH	1,95*	0,61**
FYRO Macedonia	2,36	5,24
Serbia	11,92	11,34
Croatia	18,40	26,00
Slovenia	29,63	76,84

* 1.5% GBP allocated for R&D

** 0.05% GBP allocated for R&D

Source:
Fourth International
Congress on
Peer Review in
Biomedical
Publication,
Barcelona,
Sept. 1. 16. 2001.

Scientometric methods in evaluating research work



- We expect that the universities in BiH will soon be subject to quality assessment and that these evaluation methods would contribute to research and development
- There is no certification of faculties, that is there is no accreditation of professors
- All of our attempts are directed to increasing the capacities of professors and to improve the quality of their work with the students
- The key element for successful applications to EU R&D funds are references which are in accordance with the given methods