



Noragric/UMB

**Workshop
for the
joint Project:**



**University of Banja Luka
Faculty of Agriculture**

**AGRICULTURAL ADAPTATION TO CLIMATE CHANGE –
NETWORKING, EDUCATION, RESEARCH AND EXTENSION
IN THE WEST BALKAN**

**”The Programme in Higher Education, Research and Development, in
the Western Balkans (HERD)”,
funded by the Norwegian Ministry of Foreign Affairs:**

**Main Project results obtained during the entire project
period**

**by the Faculty of Agriculture University of Banjaluka
Prof. Dr. Mihajlo Marković**

BANJA LUKA, 22 September, 2016



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**University of Banja Luka
Faculty of Agricultura**

Project partners:

B.1. Lead departments/ institutions/ centers:

Department of International Environment and Development Studies, (Noragric), PO Box 5003, 1432 Ås

Faculty of Agricultural and Food Sciences, Zmaja od Bosne 8, 71000 Sarajevo

University of Belgrade, Faculty of Agriculture

University of Novi Sad, Faculty of Agriculture

University of Podgorica, Faculty of Agriculture

University of Banjaluka, Faculty of Agriculture

Project partners:

B.1. Lead departments/ institutions/ centers:

Noragric - Department of International Environment and Development studies, Norwegian University of Life Sciences



University of Sarajevo, Faculty of Agricultural and Food Sciences, Bosnia and Herzegovina



Faculty of Agriculture, University of Novi Sad, Serbia



Faculty of Agriculture, University of Belgrade, Serbia



Biotechnical Faculty, University of Podgorica, Montenegro



Faculty of Agriculture, University of Banja Luka, Bosnia and Herzegovina



PARTICIPANTS

Norwegian University of Life Sciences, Noragric - Department of International Environment and Development studies

Bishal Sitaula Professor, coordinator

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Mike Moulton Sen. Advisor

University of Sarajevo, Faculty of Agriculture and Food Science

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Mirko Knezevic High Researcher

Ana Topalovic High Assist.



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C. Education and capacity building

C.1. Summary of PhD candidates: 2 candidates

Name	Gender	Funding source	Awarding institution	Status	Status if graduated/discontinued
		Partially project		Completed ongoing	Completed or to put reason why student did not graduated
Zorica Golic	F	Partially project	FA BL	Completed	
Nenad Malic	M	Partially project	FA BL	Completed	



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C.5. Master activities

C.5.1. Summary of Master students: 8 students

Name	Gender	Funding source	Awarding institution	Status	Status if graduated/discontinued
Dijana Garaca	Female	Partially project	FA BL	Ongoing	
Mladen Adzic	Male	Partially project	FA BL	Ongoing	
Marina Cvjetkovic	Female	Partially project	FA BL	Ongoing	
Nevena Palikuca	Female	Partially project	FA BL	Ongoing	
Jelena Palikuca	Female	Partially project	FA BL	Ongoing	
Djuradj Hajder	Male	Partially project	FA BL	Ongoing	
Milan Sipka	Male	Partially project	FA BL	Ongoing	
Aleksandar Lukic	Male	Partially project	FA BL	Ongoing	



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D. Research outcome and impact

D.1 Publications and dissemination activities:

Total no of publications: 7

No of peer-reviewed articles: 7

Total no of dissemination activities: 7



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Two papers are prepared and published by BL staff in 2013:

1. Ilija Komljenović, Danijel Jug, Mihajlo Marković, Vlado Kovačević, Milana Mišić: **Reduced tillage as the agricultural techniques in agricultural productivity and to mitigate climate change in Croatia and Bosnia and Herzegovina.** *Proceedings of papers. Scientific/professional conference with international participation "Environment protection between science and practice – status and perspectives" 13. December 2013. pp 401-412 (Review paper).*
2. V. Kovačević, D. Kovačević, P. Pepo, M. Marković: **Climate change in Croatia, Serbia, Hungary and Bosnia and Herzegovina: comparison the 2010 and 2012 maize growing seasons.** *Poljoprivreda (Agriculture), Vol.19:2013 (2) 16-22 p. ISSN 1330-7142 (Scientific review).*

Three papers we published in 2014:

3. Jug Danijel, Komljenović Ilija, Jug Irena, Birkás Márta, Vukadinović Vesna, Marković Mihajlo, Đurđević Boris, Stipešević Bojan, Brozović Bojana, Knežević Šime, Kotorac Filip: **Adapting soil tillage systems to unfavourable weather conditions.**

Proceedings & abstracts, 7th international scientific/professional conference: Agriculture in nature and environment protection, 28th - 30th May 2014., Vukovar, Croatia (*Original scientific paper*).

4. Komljenović, I., Mišić, M., Marković, M., Pešević, D., Marković, M. (2014). **The climate data analysis of Banja Luka area as the basis of agricultural adaptation to climate change planning,** In conference proceedings of **People, Buildings and Environment 2014, an international scientific conference, Kroměříž, Czech Republic, pp. 592-603, ISSN: 1805-6784** (*Original scientific paper*).

5. Dario ILJKIC, Vlado KOVACEVIC, Mihajlo MARKOVIC, Meho BASIC, Meho MAJDANCIC (2014). **Variation of maize yield in Croatia and Bosnia and Herzegovina among years with aspect of climatic changes.** **Turkish Journal of Agricultural and Natural Sciences. Special Issue: 1, 2014. pp. 789-792** (*Original scientific paper*).



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Two papers are published by BL staff in 2015:

6. Ilija KOMLJENOVIC, Mihajlo MARKOVIC, Goran DJURASINOVIC, Vlado KOVACEVIC. **Response of maize to liming and phosphorus fertilization with emphasis on weather properties effects.**

Presented at the

14th Alps-Adria Scientific Workshop in Neum, Bosnia and Herzegovina, 11th May – 16th May 2015, published in **Columella - Journal of Agricultural and Environmental Sciences Vol. 2, No. 1 (2015) pp. 29-35** (*Original scientific paper*).

7. Mihajlo Markovic, Ilija Komljenovic, Vlado Kovacevic, Vojo Radic, Milana Mišić

Soil reaction (pH) and status of mobile phosphorus and potassium in Sava valley area of Bosnia and Herzegovina. In Proceedings of the 9th International Symposium on Plant-Soil Interaction at Low pH Dubrovnik Croatia, October 18th – 23rd, 2015, pp. 28/29 (*Original scientific paper*).



HUNGARIAN ACADEMY OF SCIENCES
SOIL SCIENCE, WATER MANAGEMENT AND CROP PRODUCTION COMMITTEE
and PLANT PROTECTION COMMITTEE

The Scientific Board of the
14th ALPS-ADRIA SCIENTIFIC WORKSHOP
11th May – 16th May 2015, Neum, Bosnia-Herzegovina

has awarded

2nd Prize

to the authors

Ilija KOMLJENOVIC – Mihajlo MARKOVIC
– Goran DJURASINOVIC
– Vlado KOVAČEVIĆ

for the high scientific quality of their presentation.

Neum, 14th May 2015

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<http://balkanclimatechange.net/publications/>

AGRICULTURAL ADAPTATION TO CLIMATE CHANGE

Networking, Education, Research and Extension in the West Balkans

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Development of teaching and training materials

Course materials

Manual/book on agricultural adaptation to climate change

Manual/book ***Adaptation to climate change in agriculture*** (*Now is the time to act*) has been prepared.

Manual/book content:

- Introduction to understanding global climate change
- Why climate change adaptation in the agriculture book?
- **Understanding climate change**
 - Agricultural production - the victim and the cause of climate change
 - Why is it necessary to start with the adaptation as soon as possible?
 - Measures of mitigation and adaptation to climate change in the agricultural sector



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- **Assessing the impact of climate change in Bosnia and Herzegovina - choice of mitigation and adaptation measures**
- **What steps should be taken at the local level in the implementation of mitigation and adaptation measures?**
- **Valorization of implemented measures**
- **Bibliography**
- **Useful sources of measures to mitigate and adapt to climate change in agriculture**
- **Manual/book has been popularized and disseminated to extension workers and stakeholders in Sarajevo, Mostar, Tuzla, Brcko and Banjaluka. Detailed presentation on manual/book was given by prof. Custovic during the final workshop in December. Printed manual/book has been disseminated to extension services, ministries, decision makers, students and other stakeholders as well as to project partners.**



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Concluding remarks:

**There is an evident importance
of this project for our Faculty!**

**We would like to continue this fruitful
collaboration with the NORAGRIC / UMB,
as well as with our Balkan partners
and if possible to spread number of beneficiaries.**



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Thank you for your attention!

Prof. dr Mihajlo Marković

University of Banja Luka,

Faculty of Agriculture, Institute of Agroecology and Soil Science

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