

*Theodor-Lieser-Straße 2
06120 Halle (Saale), Germany*

Britta Paasche

Public Relations

Tel.: +49 345 2928-329

Fax: +49 345 2928-499

presse@iamo.de

www.iamo.de/en

PRESS RELEASE 4/2017

In times of political transformation, we leave stronger environmental legacies for the future

Historic maps and satellite imagery reveal the high environmental responsibility we carry for future generations.

Halle (Saale), Germany, 1 February 2017 – Our land use decisions today can affect landscapes for hundreds of years later, and the impacts will be bigger in times of political change. These are the findings of [Dr. Catalina Munteanu](#), researcher at the Leibniz Institute of Agricultural Development in Transition Economies (IAMO), and her co-authors, compiled in [“19th century land-use legacies affect contemporary land abandonment in the Carpathians”](#), which was now published in the [Regional Environmental Change](#) journal. According to her analysis of historical maps and contemporary satellite imagery, the way people used the land in historical times can still influence land changes today. These effects are termed by Munteanu as “land use legacies”, and their effects are particularly strong in times of political change. This is important, because so many regions of the world are currently going through drastic socio-economic and political change, and often we may forget that our actions may have long lasting impacts for the environment.

In her paper Munteanu shows that land use legacies can persist for as long as 100 years. The study was done by a consortium of European and US researchers, including the University of Wisconsin-Madison, IAMO and the Humboldt University in Berlin. The researchers used the example of the Carpathian Region in Eastern Europe to analyze the changes in agricultural land during distinct political periods: the Habsburg Empire, the interwar period and the socialist time era. They not only found that historical land uses affect whether an agricultural area will be abandoned or not, but that when a political shift occurs, such as was the transition from the Habsburg monarchy to the totalitarian socialist regime, those historic land use decisions seem to matter more for contemporary land use patterns compared to decisions from times of political stability.

In order to come to this conclusion the consortium has spent several years unearthing historic maps as old as 1860s and transforming them into digital information that can easily be compared with most recent satellite imagery. The data is now [available online](#). “The results are astonishing, based on these beautiful

maps, we can show what a great responsibility we carry for the generations to come,” says lead author Dr. Catalina Munteanu who has worked on the topic for the past four years while graduating from the [University of Wisconsin-Madison](#). She joined IAMO in Halle (Saale), Germany, in October 2016. Last year, the consortium already published [a paper that showed that land use legacies exist in forest systems](#). “What is fascinating and important about our most recent findings is that we placed these changes in the context of political shifts and we showed that political change can affect the magnitude of the legacy: when a drastic political shift occurs, such as the expansion of socialism into Eastern Europe, the legacies are stronger, and the effect will likely persist for longer.”

The Carpathian Mountains are a fascinating case of historic land change, because over the last century the region experienced several abrupt regime shifts, including the end of the Habsburg and Austro-Hungarian monarchy, two World Wars, the onset and the collapse of the Soviet Union and more recently the accession the European Union. This context provided the research group with the perfect ‘natural experiment’ for studying legacies. But the authors believe that legacies are present and relevant in other parts of the world too, where landscapes bare the historical footprint of human activity. The research consortium is excited to expand their work into other regions in the near future, to unearth legacies and their contemporary effects.

Text: 3.953 characters (with spaces)

Further information

Munteanu C, Kuemmerle T, Boltziar M, Halada L, Kaim D, Király G, Konkoly-Gyuró E, Kozak J, Lieskovsky J, Moyses M, Müller D, Ostafin K, Ostapowicz K, Radeloff VC (2017) [19th century land use legacies affect contemporary land abandonment in the Carpathians](#). *Regional Environmental Change Special Issue*. doi:10.1007/s10113-016-1097-x

Munteanu C, Kuemmerle T, Keuler NS, Müller D, Balázs P, Dobosz M, Griffiths P, Halada L, Kaim D, Király G, Konkoly-Gyuró E, Kozak J, Lieskovsky J, Ostafin K, Ostapowicz K, Sandra O, Radeloff VC (2015) [Legacies of 19th century land use shape contemporary forest cover](#). *Global Environmental Change*, 34: 83-94

Photo for media reports

https://www.iamo.de/fileadmin/user_upload/Bilder_und_Dokumente/08-presse/PMs_fotos/2017/03-2017_Polish_Carpathians_c_Catalina_Munteanu_IAMO.jpg

This image shows an excerpt of the historical maps the researchers worked with. The area shown is a village in the Polish Carpathians, in 1854 (top), ca. 1930 (middle) and 1956 (bottom). The red markers show how different land uses were represented in different maps: The red circle shows a forested area, the red triangle agricultural zones and the red square depicts grassland areas.

The photo can be used for media reports. Please give “© Catalina Munteanu / IAMO” as copyright holder

About IAMO

The Leibniz Institute of Agricultural Development in Transition Economies (IAMO) analyzes economic, social and political processes of change in the agricultural and food sector, and in rural areas. The geographic focus covers the enlarging EU, transition regions of Central, Eastern and South Eastern Europe, as well as Central and Eastern Asia. IAMO works to enhance the understanding of institutional, structural and

technological changes. Moreover, IAMO studies the resulting impacts on the agricultural and food sector as well as the living conditions of rural populations. The outcomes of our work are used to derive and analyze strategies and options for enterprises, agricultural markets and politics. Since its founding in 1994, IAMO has been part of the Leibniz Association, a German community of independent research institutes.

Academic contact

Dr. Catalina Munteanu

Tel.: +49 345 2928-118

Fax: +49 345 2928-399

munteanu@iamo.de

Media Contact at IAMO

Britta Paasche

Public Relations

Tel.: +49 345 2928-329

Fax: +49 345 2928-499

presse@iamo.de

www.iamo.de/en