Institutional Analysis of Black Earth Soil Degradation and Conservation in Ukraine

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Aim and Scope of the Series

„*Nothing endures but change*“. Heraclitus the Ephesian (ca. 535–475 BC)

Institutions, defined as “the rules of the game”, are a key factor to the sustainable development of societies. They structure not only the multitude of human-human interactions of modern societies, but also most of the human-nature interactions. Poverty, famine, civil war, degradation of natural resources and even the collapse of ecosystems and societies often have institutional causes, likewise social and economic prosperity, sustainable use of resources and the resilience of socio-ecological systems. Agriculture, forestry and fisheries are those human activities where the interdependencies between human-human and human-nature interactions are perhaps most pronounced, and diverse institutions have been developed in history to govern them.

Social and ecological conditions are, however, ever changing, which continuously challenge the existing institutional structure at a given point in time. Those changes may be long-term, like population growth or climate change, medium-term, such as new technologies or changing price relations, or short-term, like floods or bankruptcies, but all of them pose the question whether the rules of the game need to be adapted. Failures to adapt timely and effectively may come at a high social cost. Institutional change, however, face a principal dilemma: on the one hand, institutions need to be stable to structure expectations and effectively influence human behaviors; on the other hand, they need to be adaptive to respond to the ever changing circumstance mentioned above. Understanding stability and change as well as developing adaptive institutions and effective, efficient and fair mechanisms of change are, therefore, of central importance for societies and an ongoing research challenge for social scientists.

If we want to improve the effectiveness, efficiency and adaptability of institutions, it stands to reason that we have to develop a good understanding of the causes, effects, processes and mechanism of stability and change. This is the aim of the series “Institutional Change in Agriculture and Natural Resources,” which attempts to answer the questions "How do processes and mechanism of institutional change actually work? What and who are the main determinants and actors driving, governing and influencing these processes? What are the economic, political, social and ecological consequences? How can adaptive institutions be designed and developed, and what governance structures are required to make them effective?” These are the questions at the heart of the series. The works published in this series seek to provide answers to these questions in different economic, social, political and historical contexts.

Volker Beckmann and Konrad Hagedorn
Ernst-Moritz-Arndt-Universität Greifswald und Humboldt-Universität zu Berlin

Acknowledgements

I have always known how rich and valuable Ukrainian soils are. Still, it had not been my intention to do research on Ukrainian *Chernozem* until one day I came across the article "A case of extreme particulate matter concentrations over Central Europe caused by dust emitted over the southern Ukraine," by Birmili et al. (2008). I was shocked by the scope, magnitude and transboundary nature of soil erosion in Ukraine and became worried about the fact that agricultural land loses thousands of tons of one of the richest soils in the world because of mismanagement. That article not only hinted at an interesting case of extreme soil erosion which required explanation, it also appealed to my intrinsic respect for soils and evoked that state of emotional involvement with a topic which can form the best motivation for undertaking PhD research.

Investigating soil erosion on agricultural land in Ukraine meant carrying out an interdisciplinary research project, which has been particularly challenging for a single researcher, as it has not only required having expertise in the field of institutional economics but also having working knowledge of the fields of soil science and agricultural science. And if agricultural science was a field of knowledge relatively familiar to me, I still needed to gain an understanding of soils, their types and characteristics, the processes of their formation and degradation. Having done my best to study soil science, I still did not have enough courage to talk about soil degradation in Ukraine and, moreover, to express my opinion on its causes. My doubts were influenced by some soil scientists who claimed that soil erosion in Ukraine had already been fully investigated, and my research could add nothing to the already existing knowledge. I gained some degree of confidence only after (very nervously) explaining my research to soil scientist and President of the German Soil Association Professor Gabriele Broll: she listened to my talk with interest, understanding and concern and responded to me as an equal. Only at that point did I sense that I had indeed learned something about Ukrainian *Chernozem* and that the results of my research might actually be interesting.

Writing a dissertation turned out to be much more than writing a large well-structured analytical work. It was rather a process of shaping an independent researcher who is able to position herself, to develop and carry out her own research program, and is characterized by both analytical and holistic thinking. The Division of Resource Economics at Humboldt University, Berlin, chaired by Professor Konrad Hagedorn, provided a favorable environment for me to become such a researcher. Over years, the division has developed its own research tradition which, however, has not become dogmatic, meaning here imposing specific schools, theories, or analytical frameworks. Instead, I enjoyed the freedom to position myself and develop my own line of thinking. I am thankful to Professor Hagedorn for providing me with the possibility to carry out

my research in a free and auspicious environment, for having the confidence in my ability to do research and do it well, and especially for taking me seriously and engaging in earnest discussions on the fundamentals of theories and the meaning of concepts. Through this experience I learned to express own thoughts in a structured and logical way, to defend own point of view and sharpen my arguments.

I want to express my particular gratitude to Professor Daniel Bromley who, in spite of his status and being quite busy, always found time and patience to listen to my concerns and guide me through the maze of definitions, frameworks and theories. Two of the most important principles which I learned from Professor Bromley were "each word is a concept" and "the words matter," which have prompted me to pay attention to the language I use for describing and analyzing the world around me. I particularly appreciate the mode of our communication: Professor Bromley has never told me what to think but rather, by means of subtle questions, has pointed to the fallacies in a line of thought and reasoning I may have held.

I am thankful to my colleagues at the Division of Resource Economics for their lively exchange of ideas, sharing insights, providing comments and constructive criticism. Particular thanks to Sigrid Heimann, Renate Judis and Ines Jeworski for their daily advice and assistance. Of course, it would not be possible for me to cope with all the difficulties waiting for me around each corner of the research and writing process if not for the empathy and support of my family. They all tried sincerely to understand the subtleties of my research and bravely bore my changing moods.

Soils remain a vital resource for producing food of high quality and sufficient quantity to feed the increasing world population. Through numerous projects and calls for research proposals, we have been recently observing the increasing understanding of this resource's importance for humanity and ecosystems. I am confident that this book will reveal new aspects of the soil degradation problem and hope that it will find interested readers and its place within the scientific literature.

Berlin, February 2014 Nataliya Stupak

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