

TABLE OF CONTENTS

<i>Ivana Čače and Joanna Bryson</i>	ii	Guest Editorial
<i>Josip Stepanić</i>	iii	List of Referees
<i>Alexander Smajgl</i>	56	Modelling evolving rules for the use of common-pool resources in an agent-based model
<i>Erik Johnston, Yushim Kim and Mitali Ayyangar</i>	81	Intending the Unintended: The Act of Building Agent-Based Models as a Regular Source of Knowledge Generation
<i>Martin Neumann</i>	92	Complexity of Social Stability: A Model-to-Model Analysis of Yugoslavia's Decline
<i>Guido van Hofwegen, Gertjan A. Becx, Joep A. van den Broek and Niek B.J. Koning</i>	112	Unravelling the Unsustainability Spiral in Sub-Saharan Africa: An Agent Based Modelling Approach
<i>Rinke C. Hoekstra, Henk van Arkel and Bas Leurs</i>	138	Modelling local monetary flows in poor regions: A research setup to simulate the multiplier effect in local economies
<i>Lewis L. Smith</i>	151	Complexity Meets Development – A Felicitous Encounter on the Road of Life

GUEST EDITORIAL

Welcome to the new issue of the journal for the Interdisciplinary Description of Complex Systems. With this edition INDECS joins 235 scientific journals world-wide in publishing a Theme Issue on Poverty and Human Development. The initiative for this campaign came from the Council of Science Editors and is intended to raise awareness, stimulate interest, and stimulate research into poverty and human development.

Some of the difficulties faced by research in this particular topic are inherent in complex systems research in general. The research problems are interdependent and multifaceted. Research based on direct evidence can only concentrate on a small and tightly-delimited part of this field. The scientific modelling methods utilized in complex systems research cannot really circumvent this. But they do offer the possibility of testing and extending our understanding of the factors believed to contribute to both poverty and development in new ways. With simulations and other analysis we can come to understand types of interactions that occur in a dynamic environment. We can then look for patterns and consequences of these interactions, and then return to real-world data to test the accuracy of our new understanding.

The contributions in this issue exemplify these possibilities. By aggregating variables as diverse as global market prices and (village) local production technologies, and modelling villages as agents, van den Broek, Koning, Hofwegen and Becx simulate the complex situation in Sub-Saharan Africa. The contribution by Hoekstra, van Arkel and Leurs is another example of modelling the situation in poor rural areas, this time focusing on monetary flow. A third related contribution by Smajgl describes the effects of rule-adaptation when multiple agents have to share common resources.

We have two contributions on modelling as a technique, applied specifically to the questions of poverty and development. Johnston, Kim and Ayyangar show how the process of building agent-based models can result in valuable knowledge. Smith discusses the relationship between economic theories and development, linking a current approach to fighting poverty to research in complex systems. A further contribution by Neumann compares the models of two different social phenomena, ethnic mobilisation and hierarchy decline, using as historical background the breakup of Yugoslavia.

Often the value of understanding how some complex system works is just that -- understanding. In this issue of INDECS we present research for which the real value comes from approaching an understanding of how the complex of factors that leads to a disadvantageous situation might best be changed to lead to something better. We hope that such research will not only bring more insight into poverty and human development, but might ultimately contribute to the alleviation of poverty worldwide.

LIST OF REFEREES

The following scholars, listed in alphabetic order, refereed manuscripts for the journal INDECS in 2007:

Serghey A. Amelkin	András Margitay Becht
Virginia Dignum	Neli Maria Mengalli
Ksenija Dumičić	Damir Pajić
Viktor Eszterhai	Mirjana Pejić Bach
Robert Fabac	Gabrijela Sabol
Zsolt Gilányi	Armano Srblijinović
Zdenka Gogale	Ivan Strugar
Erik Johnston	Vanja Šimičević
Boško Kuzmanović	Klaus G. Toritzsch
Branko Lesjak	Andrej Ule

their contribution to the quality of the Journal's content is acknowledged.

Zagreb, 20 October 2007

Josip Stepanić