



### **Human Ecology for an Urbanizing World**

**International Conference on Human Ecology, 29 June – 3 July, 2009, Manchester, UK**

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#### **1 Introduction**

The 2009 International Conference of the Society for Human Ecology, jointly convened by the Commonwealth Human Ecology Council, the Society for Human Ecology and the University of Manchester in cooperation with the German Society for Human Ecology, took place from 29 June to 3 July 3, 2009, at the University of Manchester, UK ([www.societyforhumanecology.org](http://www.societyforhumanecology.org)). It assembled about 250 participants from all continents, representing different disciplines. The program consisted of a mix of plenary keynotes and a variety of concurrent sessions, divided into smaller symposia and roundtables. The overall atmosphere, at the conference as in the city as a whole, was exuberantly friendly and relaxed while Manchester experienced a sizzling heat wave. The following report is a personal one, reflecting my academic interests.

#### **2 From global to local sustainability**

The overarching theme of the conference could be quickly described as social and ecological systems for urban environments with links to mega-cities and climate change. In her opening address, A. Tibaijuka, UN Under-Secretary-General and Executive Director UN Habitat (substituted by Mutizwa-Mangiza), made it quite clear as to who will suffer the most from climate change: people in mega-cities and small islands. The future of our cities should be inspired by “nature” that provides “ecological-social benefits”.

The global approach was succeeded by the local approach. Sir R. Leese, Leader, Manchester City Council, gave – in a convincing way – an account of Manchester’s progress from industrial revolution and coal driven region towards a sustainable city. By means of retrofitting existing buildings, including Victorian infrastructure, Manchester is on its way to develop into one of the greenest cities on earth, preparing a low carbon road map. In the very near future, this includes a contribution to the upcoming global conference on climate change in Copenhagen December 2009.

#### **3 Connecting systems theory**

Systems thinking is needed to bridge the gap between natural and social sciences, a well-known theme in LOICZ. According to F. Tretter, German Society for Human Ecology, understanding the dynamics of socio-ecological systems is an essential for rational and coordinated management of problem regions. Systems modeling with J. Forrester’s method of urban/systems dynamics was, in the 1970s, a very early and important approach to understand processes in urban regions. Social ecological theories did not integrate this methodology of modeling into the field of theoretical social/human ecology. This situation has changed as recent developments, including LOICZ priority topics, have shown. The workshop aimed at discussing the theoretical and practical options of various approaches of systems thinking in human ecology.

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Can civilizations collapse? This spectacular question was raised by M. Fischer-Kowalski, Vienna University. What is the difference between collapse and change? Approaching the question by a theory of coupled systems, Fischer-Kowalski presented the Vienna approach to a socio-ecological model of society as a coupling of a communication system and biophysical structures reproduced by social metabolism. She demonstrated for the case of the collapse of the Roman Empire that such a theoretical framing allows to draw a plausible distinction between collapse and other forms of social change – a distinction that may prove to be useful also in characterizing a transformation of current industrial society towards sustainability in contrast to collapse.

W. Serbser, German Society for Human Ecology, continued the discussion by suggesting a systems approach to social change and innovation. According to Serbser, the change of social organization seems to be a core feature and problem among the 21. Century challenges. After a very long period of a more or less unchanged societal system, based on institutions that forced a string of growing populations, economies, and technologies to exploit the global resources, we now have to face a future defined by limited and shrinking non-renewable resources in societies with shrinking populations. In order to establish future sustainable communities, we have to systematically develop social innovation and social change to find new ways to organize institutions. A real life example illustrated Serbser's approach: how to start social innovation in a local context to encourage the sustainable organization of a community.

As agent based models were mentioned in the previous lectures, P. Mandl, University of Klagenfurt, Austria, presented spatial agent based models as recent representations of urban human ecological systems to explain time-space variant processes, i.e. mobile behavior following pre-established rules. This is an approach to combine modeling with simulation techniques. Urban systems, for example, are complex ecological structures. Many actors, players or stakeholders are interacting in space and time. Multiagent systems have shown to be an appropriate formal approach for describing, simulating and to some extent explaining urban systems. Mandl demonstrated that the computer models used are not only good for visualizing complex ecological processes but also for describing them in an interoperable way. They can be used as laboratories for exploring and simulating the system processes and the system behavior and applied to human ecological research.

B. Glaeser, LOICZ and German Society for Human Ecology, presented social-ecological systems analysis, "River Health and People's Health", a German-Indonesian SPICE and LOICZ project. He discussed some suggestions on how to develop social-ecological systems (SES) analysis as a framework for interdisciplinary social-ecological research and synthesis and argued that the development of interdisciplinary methods for coastal and marine research may become a main focus in the further development of approaches to SES analysis. In applying SES methodology, case studies on "River Health and People's Health" are being prepared for Riau Province in Sumatra by a German-Indonesian team within the conceptual framework of SES and governance analysis. A focus is on poverty and sustainable development within the Siak River catchment area.

#### **4 Disasters and vulnerable societies: The tsunami aftermath**

S. Singh, Social Ecology, Vienna, Austria, who for a long time has studied the Andaman and Nicobar Islands (they are part of India) researched, as a major tsunami outcome, not only the primary natural disaster but – in this lecture "The human ecology of complex disasters: Nicobar Islands in the aftermath of the tsunami" – the secondary social disaster. Economic aid can be a source of social disruption. A theme that, according to Singh, has largely been under-researched is the impact of aid on rural and indigenous

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communities and what this means in terms of sustainability. Large parts of the so-called “developing world” are caught within a system of aid with the goal to reduce poverty and to bring about development and urbanization. In effect, these areas gradually become entrenched into a global division of labor serving the urban core via an unequal trade relation and the exploitation of natural resources and human labor. Most of these efforts are undertaken by organizations that operate within structures that impel them to be more responsive to the needs of the donors rather than the beneficiaries.

Using the case of the Nicobar Islands in the aftermath of the tsunami, Singh’s lecture introduced the notion of “complex disaster”, understood as a state more complex than what was caused by the disaster itself as a result of inappropriate human interventions. The word “aftermath” has its roots in agriculture, meaning “a second mowing” of grass or crop. Indeed, the aftermath of tsunami is characterized by a second mowing of what has survived the disaster itself. Based on research material from pre-and-post tsunami Nicobars, Singh described the process by which the disaster response contributed to the systematic elimination of the resilient attributes inherent in the Nicobarese society and the subsequent impact this has had on other socio-cultural and ecological variables. Some concrete examples: Food aid was recycled to the black market. Cash was spent on TV sets, junk food, motor bikes, or mobile phones. Social disruptions resulted in split up families, social conflicts, and increased corruption. In short: Aid, as it was performed, produced a “metabolic trap”, i.e. new sustainability problems.

### **5 Ecology in thought and action: ethics and education**

During LOICZ Dahlem-Type Workshop in Kjeller in May 2009, the theme of ethics and sustainability came up and was discussed and made it into one of the resulting papers. W. Throop, Green Mountain College, Vermont, USA, organized, inspired and chaired the session on ethics. His lecture was on strengthening social sustainability and the role of higher education. According to Throop, the social dimensions of sustainability have received much less attention than the ecological dimensions, even though progress on the latter requires reasonably sustainable human communities or a major disturbance. New research on social sustainability tends to be descriptive rather than normative and to explore how patterns of wealth distribution, participation in decision-making, and competition/cooperation have created more or less sustainable communities.

By contrast, Throop described and defended a virtue-based approach to social sustainability, and outlined its implications for the structure of a human ecology curriculum. He argued that the challenges we face in modern western societies – which include the forces that polarize peoples, the nature of leadership in media-saturated cultures, the effects of knowledge-focused educational systems, and the assumption of incremental change – should lead us to emphasize the cultivation of key virtues quite different from those that dominate much current thinking. Virtues such as adaptability, humility, interpretive charity, emotional intelligence and “group-responsibility” should be at the core of an ethics for global transition. Which are virtues that are socially sustainable? Throop points at the disposition to address problems and to facilitate action to build up trust. These virtues can be taught and lived in college education.

The Importance of education in human ecology was also stressed by D. Hales, President, College of the Atlantic, in his keynote. As humans are the first species on earth to perform with geological power – we may well call this the Anthropocene as LOICZ did in an earlier conference – humans have to shape the world and their destiny. Here comes the importance of education: Be responsible and understand the consequences of what we are doing! We need an ethic to dominate choice and behavior to save the earth for future generations.

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### **6 Concluding remarks**

I noted in an earlier review that coastal topics, including fisheries, gain importance in human ecology meetings. Perhaps more interesting for LOICZ: quite a few topics discussed in human ecology are of relevance for integrated coastal management. This may, however, not be so surprising as both fields pursue the sustainability goal and rely on inter- and transdisciplinary frameworks.

Different sessions addressed climate change, social change, global transition, ethics and education. Society and catastrophic events are mutually related. Social change may not only lead up to ecological change, including disasters. Social change may be the outcome of a disaster and its secondary aftermath. In the case of the Nicobarese (see above), post-tsunami aid increased vulnerability and decreased resilience. We may point to the deficiencies in the structure of the international humanitarian aid response as the main driver for “complex disasters”. This is a problem that had been dealt with in the 1980s and has been neglected since: the negative aspects of developing aid, often serving the donors more than the recipients. I wonder whether this might not be a LOICZ topic related to coastal development.