

### **Modeling Stakeholders involved in the management of Socio-Ecological Systems with Fuzzy Cognitive Mapping in Romania**

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#### **Case Studies: Romanian Network of LTSER Sites (Ro LTSERS)**

In the last century, policies and management plans, aiming to achieve economic growth, had a direct and indirect effect on the Natural Capital's structure and function of the Lower Danube Wetlands System (LDWS). Beginning with the sixties, in a three decade period, extensive alterations of ecological complexes' structure occurred; therefore, nowadays only 18% of the former wetlands functions in a natural system. After 2000, socio-ecological research in the LDWS has focused, among other, on assessing people's knowledge and increase public support for biodiversity management (V?dineanu et al., 2004). In the last two decades research has also focused on assessing people's knowledge and increase public support for biodiversity management.

This project is part of a PhD thesis that deals with modeling the behavior of stakeholders involved in the management of two Romanian Long Term Socio-Ecological Research (Ro LTSEr) sites: Inland Danube Delta (IDD) and Neajlov River Catchments (NRC).

#### **Objectives (partly):**

- Evaluate the potential of modeling complex and abstract variables of social capital components in the decision making process through Fuzzy Cognitive Mapping
- Update the structural model that defines the social capital/ Social and Economical Agents Map

**Location:** Inland Danube Delta and Neajlov River Catchments.

Some FCM interviews, in respect to the objectives, with the local people were done in 2009 in Braila Islands (IDD) based on the interview guidelines (see Isak. et al., 2009) in the Manual for applying FCM, with experiences from ALTER-Net. The indices were calculated with the FCMapper (see the Software section) as well as making the adjacency matrix, and the network images were produced with the Pajek software. The maps will be analyzed and interpreted, and a series of scenarios will be run.

### References:

1. Isak, K.G.Q., M., Wildenberg, Adamescu, C.M., Skov, F., De Blust, G., 2009. Manual for applying Fuzzy Cognitive Mapping – experiences from ALTER-Net. Internal working paper. A Long-Term Biodiversity, Ecosystem and Awareness Research Network. Further information and contacts available through the internet: < <http://www.alter-net.info/> >
2. Vădineanu, A. et. al, Managementul Dezvoltării – o abordare ecosistemică, Editura Ars Docendi, București, 2004