

## 8.5. Crises, fluctuations, land-use changes and their long term consequences 1300-1870. Multidisciplinary approaches

**Panel organiser: Morell, Mats, Stockholm University, Sweden; Isacson, Maths, Uppsala University, Sweden**

This panel discusses multidisciplinary approaches to the problem of resilience of systems of land-use and social reproduction in pre-industrial agrarian societies. We are interested in how pre-industrial agrarian households interacted with the society and the nature from which they acquired ecosystem services they needed to secure their livelihoods and to socially reproduce themselves. The panel is focussing on periods of crisis and fluctuation (induced by climate, market, or demographic upheaval related to pestilence), the way agrarian societies adapted to such phenomena and how their pattern of land-use and social reproduction was affected. On the micro level we are interested in the agency of households: how they, within given social structures, acted in response to, or in anticipation of fluctuations and what the short and long term effects of their actions were, socially and ecologically. We are interested in whether the system of land-use and social sustention households were involved in was resilient or not, i.e. whether (and how) households managed to adapt their land-use, so it could offer the ecosystem services needed, without evocating ecological or social imbalances threatening further functioning of the land-use pattern. Attention needs to be paid to the household's social position, the power and market relations it was involved in, its duties, its possibilities to command recourses (e.g. labour power) and the power relations within the households, (related to gender and generation). For such micro studies a historical and biological reading of various archival sources, peasant diaries, cadastral maps, tax-records, etc., may be employed along with pollen analysis and field studies. On the macro level we are interested in studies of how severe crises – the Black Death is the paramount case, but there are also early modern examples right up to the 19th century – affects land-use and settlement structures and how this land-use development is related to the demographic change as well as to nutritional standards. Here archival material can be combined with archaeological, palaeoecological and osteological analyses

**Chair: Morell, Mats, Stockholm University, Sweden**

**Wednesday, 21 August 2013 // 1100 – 1300 // Session 8 – Room A 027**

### 8.5.1. Agricultural and social responses to the Black Death in Sweden

**Lagerås, Per, Swedish National Heritage Board, Lund, Sweden**

Research on the late-medieval crisis in Sweden has so far mainly been based on the historical records. In a project in progress – The archaeology and ecology of collapse: social and agricultural change following the Black Death in Sweden – a multidisciplinary approach is applied, based on interpretations of palaeoecological and archaeological records. A large set of pollen data from more than 30 sites is used to study changes in vegetation and agricultural land use. The results reveal significant changes due to farm abandonment during the 14th and 15th centuries, in particular in marginal upland areas. Decreasing cereal-pollen percentages indicate the abandonment of arable fields, while the relationship between grass-land pollen and tree pollen seems to indicate a relatively restricted reforestation on former pastures. The latter is important for an understanding of the role of animal husbandry in a time of population decline, and may reflect social strategies to handle an excess of land but shortage of labour. Another empirical basis for the project is a set of bioarchaeological data of human skeletons from medieval cemeteries. Approx. 2000 individuals are interpreted in terms of stature as an indication of the biological standard of living. In addition, a selection of individuals from before and after the Black Death is analysed for stable isotopes of nitrogen and carbon in order to reveal possible changes in nutritional status. The new results and interpretations will be presented and discussed in relation to the current historical knowledge.

### 8.5.2. The agrarian household as a social-ecological system

**Lennartsson, Tommy, Swedish Biodiversity Centre, Uppsala, Sweden**

Before introduction of fossil fuels and fertilisers, agriculture was largely based on local ecosystem resources. The subsistence of an agrarian household also depended on socio-economic variables such as microeconomic and macroeconomic conditions, societal structure, and local social relations, including the household's internal gender structure. Few studies have addressed the question of how multiple variables simultaneously provided the arena for farmers. In this study we apply a social-ecological framework on an early 19th century Swedish agrarian household, as described through the detailed diary by the farmer and parish priest J. F. Muncktell (1764-1848). The household is viewed as a dynamic system in which the household acts across ecological, economic, and social domains, and across different spatial, temporal, and organisational scales within each domain. When reading the diary we focus on variables and activities important for the resilience of the subsistence system against biophysical and socio-economic variation. Muncktell's description of the household's potentials, problems, and activities indicates four important, interlinked, domains:

ecosystem resources, economy, social network, and labour. The household's economy seems to encourage a farming system with intense rye production which suffers from deficit of pasture and hay. This deficit in the ecological domain is handled by improving the ecosystem resources, but also through actions in the social-network and the labour domains. Based on this information we discuss the sustainability of the household's subsistence system.

### 8.5.3. Settlement and desertion processes in the Northern Harz region

**Küntzel, Thomas, Regierungspräsidium Karlsruhe, Germany**

In 2004/2005 large-scale excavations took place between Blankenburg and Quedlinburg in Sachsen-Anhalt, Germany, preceding a road building. Several medieval villages could be investigated, especially the large village Marsleben north of Quedlinburg. The documented remains were reconstructed in a project located at the Anhalt University of Applied Sciences in Dessau, called „OSCAR“ (Open Settlement and Communication and Research Platform“. Alongside the work with the archaeological remains, the historical development of settlements in the vicinity of Quedlinburg was investigated. The region is characterized by highly fertile soils and large villages, which nearly look like small towns. This was proved by the excavations, which brought into evidence the impressive houses the farmers lived in. But in the 14th and 15th centuries most of the settlements were deserted, which is highlighted by a registry of parish taxes of the bishopric of Halberstadt. Only few villages survived. The area, the deserted villages were located in, today forms the municipality district of Quedlinburg. In the Middle ages, it belonged to the royal chapter of Quedlinburg. But the town-community of Quedlinburg acquired the sovereignty by mortgage. In 1477 the abbess not only regained the privileges by subduing the community, but also the desertion process stopped. The paper will throw light on the different causes of the process and how they are illustrated by the excavations on the B6n Highway

### 8.5.4. Pre-industrial agrarian households' adaptations to harvest crises and fluctuations: a social-ecological approach

**Dahlström, Anna, Swedish Biodiversity Centre, Uppsala, Sweden**

**Isacson, Maths, Uppsala University, Sweden**

The subsistence of pre-industrial agrarian households depended on local ecosystem resources and a number of socio-economic variables, including relations to markets, conditions for land tenure and social relations. This paper investigates, for a sample of households in East central Sweden, activities, which were developed in order to handle climatic variation and severe harvest crises. These activities could imply modification in the households' land use system as well as their behaviour vis-à-vis markets or their local social relations. The activities expressed strategies, which de facto aimed at making the subsistence system of the households resilient to biophysical and socio-economic variation. We focus on both direct crises measures ('shock-absorbers') and adaptations and planning which anticipated weather fluctuations, known to be immanent in the households' environment. Furthermore we recognize the by-effects of some of the measures taken: A solution to shortfall in one respect could produce deficits in another. We study seven households of varying social standing, either situated in forested areas, with a market relation to ironworks for which they produced charcoal and transport services, or in the plains where grain surpluses for sale normally were produced. In several cases, the procurement of winter fodder for the animals was a weak point. We combine local price series, official harvest notifications, cadastral maps, enclosure act, various parish accounts but foremost rely on detailed diaries from the farmer households involved. The fluctuations in 1797-1812 and severe crises in 1844/46 and 1867/68 are focused upon.

#### Participants

##### Dahlström, Anna

Anna Dahlström received her PhD in agrarian history in 2007 with a thesis about grazing pressure in Sweden 1600-1850, addressing questions on biodiversity in semi-natural pastures. With a background in biology, her research combines agrarian history and ecology with questions derived from both disciplines. Among her publications is *Managing biodiversity rich hay meadows in the EU: a comparison of Swedish and Romanian grasslands* (Environmental conservation, in press, with Ana Maria Iuga and Tommy Lennartsson) and *Wolves in the early nineteenth century county of Jönköping, Sweden* (Environment and History, accepted, with Örjan Kardell).

##### Isacson, Maths

Maths Isacson professor in Economic History at Uppsala University since 1996. He wrote his doctoral thesis on economic development and social stratification among the peasantry in a Swedish parish during the 18th and 19th century. Since then he has been doing research about proto-industrialisation, work and environment, industrial transition, industrial heritage and modern agriculture. Among his publications is *The Agricultural History of Sweden V, 1945-2000* and a chapter about the period 1945-2000 in *The Agrarian History of Sweden* (both together with Iréne A. Flygare).

##### Küntzel, Thomas

Thomas Küntzel studied History and Ethnology at universities in Göttingen, Tübingen and Kiel. In 2000 he finished his M.A. with a study on deserted central European towns. In 1997 he joined the excavation team in Nienover. With Dr. Sonja König he wrote a dissertation on the archaeological contexts documented in Nienover. Later he engaged in archaeological projects in several city centres, former towns, monasteries, on the reconstruction of medieval villages („OSCAR“, University of Applied Sciences Anhalt, Dessau) and prehistoric and medieval landscapes (LIDAR-Scan Naumburg, Welterbe an Saale und Unstrut).

##### Lagerås, Per

Per Lagerås is a palaeoecologist and holds a research position at the Swedish National Heritage Board in Lund. He has a PhD in Quaternary geology from Lund University and is appointed Assoc. Prof. at the Dept. of Agricultural History, Swedish University of Agricultural Sciences, Uppsala. His research focuses on long-term agricultural history and cultural landscape development. Among his publications is the book *The Ecology of Expansion and Abandonment: Medieval and Post-Medieval Land-use and settlement Dynamics in a Landscape Perspective* (2007).

##### Lennartsson, Tommy

Tommy Lennartsson is Researcher at the Swedish Biodiversity Centre and Assoc. Prof. in Conservation Biology, Swedish University of Agricultural Sciences. His research focus are applied biodiversity conservation questions in a historical-ecological perspective, and the forming and use of ecosystem resources in historical subsistence systems. Both historical, archaeological, and ethnological sources are used to derive the historical land use. Among his publications are *Biodiversity and traditional land use in south-central Sweden - the significance of timing of management.* (Environment and History, with A. Dahlström, J. Wissman and I. Frycklund).

##### Morell, Mats

Mats Morell received his PhD in Economic History from Uppsala University in 1987 on a doctoral thesis on Food consumption in Sweden in the 17th to the 19th century. Since 2010 he is professor of Economic History at Stockholm University. His research focuses on early modern and recent rural history of Scandinavia. Among his publications is *The Agricultural History of Sweden IV, 1870-1945* (in Swedish). He is co-editor and co-author of *The Agrarian History of Sweden 4000 BC to 2000 AD* and has been editor of the *Scandinavian Economic History Review*.