8.5. Crises, fluctuations, land-use changes and their long term consequences 1300-1800. Multidisciplinary approaches

Panel organiser: Morell, Mats, Stockholm University, Sweden; Isacson, Mathis, 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 focusing on periods of crisis and fluctuation induced by climate, market, or demographic upheaval related to pestience, 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 evoking 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 resources (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.

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 focused on the historical records. In a project in progress – The agrarian economy and ecology of collapse: social and agricultural change following the Black Death in Sweden – a multidisciplinary approach is applied, involving interpreters of both 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 show significant changes due to farm abandonment and reforestation, 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 understanding 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 indicator 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 power, 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.

Isacson, Mathis

Mathis Isacson professor in Economic History at Uppsala University since 1996. He writes on historical ecology, on economic development and social stratification in a context of changing power structures within society as well as within the household. His current research focuses on economic and social diversification in agro-ecosystem in the 14th and 15th century, and the role of the state in this diversification. He is Managing biodiversity rich hay meadows in the EU project CONNNECT (2014-2019). He has written 2 books and a number of articles, most of which have been published in scholarly journals or conference proceedings.

Lagerås, Per

Per Lagerås is a palaeoecologist and finds a research position at the Swedish National Heritage Board. He is interested in how changes in land use and farm structure are illustrated in pollen data, how this can be related to environmental and economic changes, and how they are illustrated by the excavations on the B6n Highway.

Küntzel, Thomas


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 the official harvest notifications, 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.

8.5.4. Pre-industrial agrarian households’ adoptions to harvest crises and fluctuations: a social-ecological approach

Dahlström, Anna, Swedish Biodiversity Centre, Uppsala, 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-a-vis markets or their local social relations. The activities expressed strategies, which de facto aimed at making the subsistence of the households in resilient to biophysical and socio-economic variation. We focus on both direct crisis measures which anticipated weather fluctuations, known to be imminent 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 status, either situated in forested areas, with a marked need for firewood, charcoal and transport services, or in the plains were grain surpluses for sale normally were produced. In several cases, the procure- ment of winter fodder for the animals was a weak point. We combine local price series, official harvest notifications, cadastral maps, enclosures act, various parish accounts but foremost rely on detailed diaries from the farmer households evolved. The fluctuations in 1379-1812 and severe crises in 1844/46 and 1867/68 are focused upon.