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THE POWER OF LOCAL

– sustainable food systems around the Baltic sea

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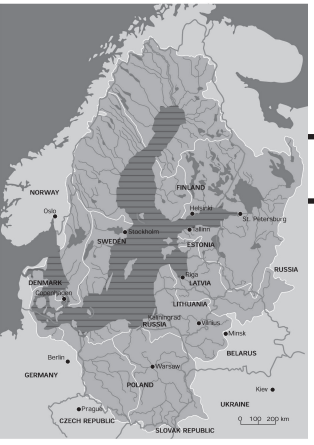
Interdisciplinary Synthesis of the BERAS project



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The photo is taken at a Farmers Market at Katarina Bangata in Stockholm in the autumn 2005.

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Introduction

Helena Kahiluoto

Sustainable development of food systems is a major challenge for all regions of the world. This report presents the interdisciplinary synthesis of the multidisciplinary BERAS project investigating the sustainable development of rural food systems in countries surrounding the Baltic Sea.

The introductory chapter describes the challenge and notes the complex of rural problem, associated with food systems, with focus on those in countries bordering the Baltic Sea. It concludes with the general hypothesis that food systems that are more local and recycling would be more sustainable than current ones. The common, interdisciplinary research questions of the BERAS project are presented.

Current food systems are not sustainable

The world food system faces the challenge of more than 850 million people suffering from chronic undernourishment mainly due to poor access to food and to resources required for food production, which follow directly from poverty and lack of voice. While most of the hungry live in the Third World, some 9 million live in industrialised countries, and most of the poverty ravishes rural areas (FAO, 2004). Over the years, food systems have developed from people relying on ecosystem services and other local resources towards industrial systems in which regulation by the carrying capacity of the ecosystem has been lost. The depletion of economically exploitable fossil energy and phosphorus (P) resources is accelerated, while environmental pollution and climate change intensify. Biodiversity and ecosystem services are in sharp decline (MA, 2005). Increasingly, the available resources are harnessed to serve the food needs of the industrialised world (Leckie, 1999; Johansson, 2005). A drastic inequity prevails in food systems: between industrialised and developing countries, between urban and rural regions, and even between generations. This situation concerns the Baltic Sea countries also, even if there are differences between the countries in timing, form and degree of industrialisation of the food system. The devastation of the Baltic Sea ecosystem is a clearly visible consequence.

Rural regions lose value added and voice

Liberalisation of international trade, mobility of capital and people, new technologies (Galizzi and Pieri, 1998) and an infrastructure increasingly dominated by multinational corporations are driving to the horizontal and vertical integration of food systems towards global, linear and centralised structures with regional differentiation (McFetridge, 1994; Royer, 1998; Cook and Chaddad, 2000; Reardon and Barrett, 2000; Hendrickson et al., 2001; Harwood, 2001). Rural regions have increasingly specialised in producing and exporting natural resource-based raw materials for, e.g., food industry (Siegel et al., 1995), while at the same time satisfying local demand with food imported from outside the region. The value

added in production of inputs, food processing and food distribution has been transferred to urban areas and, increasingly, beyond national borders. Besides liberalisation of agricultural trade, the European Union's (EU) agricultural policy and the associated technological change have forced a rapid reduction in the number of farms. Because food production has always played a central role in rural vitality, and will do for a long time to come (OECD, 1996), this development has led to unemployment, out-migration and disintegration of social structures in the rural regions of all industrialised countries in Europe. This also impedes sustainable development of urban areas. In addition, current directions in the development of food systems have fundamentally changed the character of food chains and their internal interaction, disempowering local rural actors - not only farmers, but also retailers and small-scale processors.

Linear, distanced food chains destroy the environment and pollute the Baltic Sea

Increased geographical distance between stages of food chains, together with the regional specialisation of agriculture offers a wider selection of apparently cheap food, but at the cost of longer transports with the attendant consequences of greater energy use and deleterious effect on global climate. Distancing and regional specialisation has also complicated recycling of nutrients and carbon within food systems from animal husbandry back to crop production and from demand chains back to agriculture. The latter has been further aggravated by the current urban waste management systems, which pollute the wastewaters. The manufacturing industry of fertilizers, that is imported to rural regions to replace recycling, also require non-renewable energy. The linear flow of nutrients from the atmosphere and from non-renewable edaphic pools in fertilizers is increasing nutrient emissions to waters. Following this, also the Baltic Sea is rapidly being devastated.

The countries around the Baltic Sea have agreed on applying Best Environmental Practice to prevent and reduce pollution of the sea, and the EU will not allow surface waters to differ in 2015 from the natural state of the ecosystem and water quality. With the load from point sources already reduced to between 10 and 20% of the total load, agriculture, which now contributes half of the eutrophying discharges to the sea, has the greatest potential for reduction (HELCOM, 2003). In contrast to the improvements in the marine bays dominated by cities, where the natural state was lost in the middle of the nineteenth century, marine bays dominated by agriculture and forestry show no return towards the original state of the nineteen forties, despite the agri-environmental scheme. If, however, the loads from agriculture were to decrease, rapid improvement could be expected, because in those bays there is less accumulation in bottom layers and thus less internal loading (Weckström, 2005). Alternatively, if the production regimes of the new member states of EU were to move towards industrialised agriculture like that of

Denmark, for example, the eutrophying nitrogen (N) emissions would increase by 50-75% (BERNET, 2001).

Organic food systems are a local, recycling alternative in principle but not in practice

Organic agriculture takes sustainability as the development priority. The explicit principles of organic agriculture require reliance on local resources and recycling, adaptation to local conditions and connecting of farmers and consumers (Nordic IFOAM, 1989; IFOAM, 2005). Despite this, even in organic agriculture the current European regulations and subsidies have not motivated a development of local food systems, nor recycling of organic matter between plant and animal production or between consumption and production. Thus, an organic production that is less local and less recycling has emerged. In the Action Plan for Organic Food and Farming launched by the EU Commission in 2004, organic principles have, however, been reemphasized as the basis for sound development of organic standards. There is also a rapidly growing interest and activity in Europe around food produced locally, based on local resources.

Towards sustainable food systems

Contemporary food chains are not totally disembedded, i.e. torn from their local and regional contexts. The processes of disembedding are struggling with processes of reembedding in local socio-ecological conditions as "nature" and "quality" assume more importance in value considerations, especially for food (Buttel et al., 1994; Murdoch and Miele, 1999; Murdoch et al., 2000; for critics see Winter, 2003). The growing interest in and increasing number of initiatives in local food are not only based on the appreciation of fresh food of known origin, but also represent an effort towards a fairer global food system with improved food security. These interests and initiatives imply belief in the hypotheses that more local food systems would be more sustainable through enhanced recycling and, thus, reduced nutrient loads to waters, decrease in the consumption of fossil energy and in the related emissions, more vital local economies and communities with more voice. This study was designed to test these general hypotheses in a case study approach. On the basis of the results, solutions for sustainable localisation and recycling were sought in an interaction with actors.

Multidimensional sustainability was adopted as the evaluation criterion and goal for the development of food systems. This set a requirement for a multidisciplinary approach. However, to serve the development of food systems in all the dimensions of sustainability simultaneously (Figure 1), multidisciplinarity was considered insufficient in itself. The different disciplines representing ecological, economic and social sciences, and their perspectives, had to participate in an interactive process. It was necessary to have common questions, interdisciplinary interpretation of the results and, finally, common answers. In this report,

the interdisciplinary synthesis of the research work is presented in the form of common answers to the main research questions of the study. The research questions were the following:

- Do localisation and recycling (that is a greater share of local organic food based on local resources, especially on increased recycling) in rural food systems enhance sustainability, and what are the prerequisites?
- What are the main obstacles to enhancing sustainable localisation and recycling in rural food systems, and what are the solutions for enhancing this?
- Thus, what would sustainable localisation and recycling look like in Baltic rural food systems?

In addition to these main questions of the study, there was a methodological interest in developing interdisciplinary approaches for research on food systems.

Organisation of the report

The following chapters describe, in detail, the interdisciplinary conceptual framework raised by the research questions and approach above. Material and Methods describes the case food systems and research methods, while Results and Discussion presents a synthesis on the potential of sustainable localisation and recycling considering the multiple dimensions, as well as the interdisciplinary solutions for identified obstacles. Finally, conclusions are drawn. The various disciplinary approaches and results are reported in detail separately in the work package reports(see *List of work package reports of the BERAS project* at the end of the report).

The sustainability concept

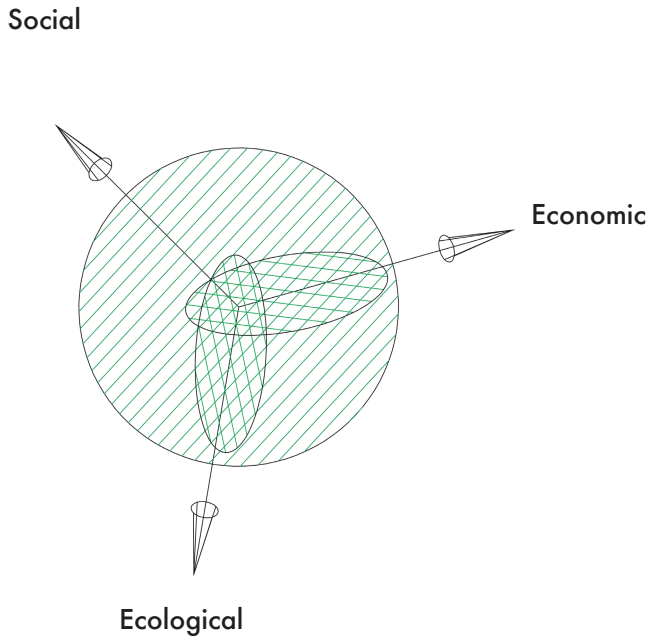

Figure 1. *Systemic view of sustainability in the interdisciplinary work of the BERAS project. Development of a food system in which sustainability is enhanced in all three dimensions simultaneously (the circle with largest area of sustainability) was sought rather than trade-off relations between the dimensions (the alternative ellipses).*