Liveability and Ecological Land Use

The challenge of localisation

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- Paper IV
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Contents

Glossary

adaptive management: continuous adaptation of management to feedback from the non-human environment; this approach considers management to be experimental and policies to be hypothetical

agency: the ability to act

coevolution: the understanding that the human and non-human environment influence each other mutually

community: the network of human actors who are related

community-of-interest: social relationships that are stretched out over space and that are united by a specific interest

community-of-place: social relationships that are united by a locality and that inherently represent a wide array of interests

culture: a framework for interpreting the world, to oneself and to others

disembeddedness: alienation of persons from the contexts from which they previously derived their meaning

embeddedness thesis: the understanding that economic action is embedded in social relationships and cannot be understood apart from them

empirical field: a certain theme (e.g. local development) rather than a discipline is the focus of the researcher; requires an interdisciplinary research approach

environment: the reality for the world constituted in relation to the organism or person whose environment it is; subdivided in human and non-human environment

epistemology: claims to knowledge framed by the relationship between the researcher and the researched

feedback: the flow of information from the affected person(s) or non-human environment to the actor(s) whose behaviour has affected the person(s) or environment

functional integration: living in one locality, working and having one's social life somewhere else

human wellbeing: refers to the level of society and is associated with basic human needs

institution: made up by formal constraints (rules, laws and constitutions), informal constraints (norms of behaviour, conventions, and self-imposed codes of conduct) and their enforcement characteristics

interdisciplinary research approach: the integration of two or more disciplines in scientific research

land use: the way in which people purposively steer their interactions with the non-human environment that surrounds them; includes aspects of the non-human and human environment

life-supporting environment: general term that refers to the non-human environment that provides the necessities for human existence

liveability: a complex understanding of 'quality of life' at community level; consists of (the interactions between) the variables: local inhabitants, community life, service level, local economy and physical place; includes aspects of the human and non-human environment

local development: the conscious steering of (the relationships between) the variables that constitute liveability by (actors in) communities-of-place

locality: a spatially bounded area

meaning: an object can only have meaning to a person on the condition that this object is part of that person's environment

nature: the reality of the physical world of neutral objects that is apparent to the detached observer

non-linearity: the assumption that a system does not necessarily follow a linear trajectory in time

ontology: claims about the nature of reality

place identity: comprises of three interrelated components, namely the physical setting, the activities that take place in that physical setting and the meanings these settings and activities have for people

polycentricity: multiple overlapping systems at nested scales

positivism: scientific approach that assumes the researcher to be outside the system studied and reality to really exist

power-geometry: understanding that social groups and individuals face differences in access to social networks

quality of life: refers the level of an individual and is operationally expressed through quantitative indicators

recursive relationships: relationships in which two or more aspects influence each other mutually

redundancy: the availability of excessive information or overlapping functions in a system

resilience: buffer capacity of a system

self-reliance: the reliance on an individual's or group's own power, judgement and ability; refers to control over decision making

self-sufficiency: the ability to affect the individual's or group's ends or the fulfilment of the individual's or group's own desires; refers to fulfilment of (material) needs

sense-of-community: the feeling of belonging together in a community

sense-of-place: the identity of a place that might persist in spite of that place possibly having undergone profound changes

social capital: a property of social relationships that comprises trust, reciprocity, common rules, norms and sanctions and connectedness, networks and groups

social constructionism: scientific approach that assumes the researcher to be part of the system investigated and reality to be socially constructed and thus to be interpreted differently by different actors

society: consists of the relationships between people; a subsystem of the environment

territorial integration: living, working and having most of one's social life in one locality

theory: simplification of a complex reality in order to understand key elements and their interrelationships in the representation of it

time and space distanciation: the restructuring of social relationships across indefinite spans of time and space

village: the spatially bounded area of the locality

The challenge of localisation

ABSTRACT

The purpose of this dissertation was to explore ways to transcend the current negative impact of rationalisation in the agricultural sector that has taken place during the last five decades. Rationalisation has been part of the process of globalisation, which induced environmental degradation and a decrease of liveability in rural areas in Sweden. Globalisation has caused the disembeddedness of people from their local environment. As a result, people no longer perceive feedback from that part of the non-human environment that is affected by their action. Moreover, global society has become increasingly vulnerable to crises as the redundancy of numerous relatively self-sufficient systems gradually disappeared.

To examine the interface between the human and non-human environment, an interdisciplinary research approach has been adopted. Participatory research has been complemented with an interview study and questionnaire survey.

I have chosen to explore the role of the non-human environment in liveability and the potential consequences of this for the scientific discussion of ecological land use. Liveability comprises of (the interrelationships between) five variables: local inhabitants, community life, service level, local economy and physical place. Social activities generate a sense-of-community and reinforce the local stock of social capital, an important driving force behind the local economy. In order to understand the role of the non-human environment in liveability, the relationship between physical place and the other variables has been investigated. A shift has been perceived from an emphasis on the production value of the local, non-human environment to a perception of this environment in experiential terms.

For the scientific discussion of ecological land use this might imply that a certain degree of local self-reliance and self-sufficiency could both induce liveability and re-establish feedback relationships that allow for the adaptive management of the non-human and human environment. This learning approach to ecological land use, facilitated by a certain degree of re-localisation of decision making and resource use, is considered to be one alternative for obtaining liveability and a more ecologically sound land use.

1 Introduction

1.1 Changes in the Swedish countryside

Problems in – and induced by – the agricultural sector

As elsewhere in Europe, the agricultural sector in Sweden has undergone large changes during the second half of the 20th century. Technological development such as the introduction of the tractor (Myrdal 2001) and the development of chemical inputs such as fertilisers and pesticides (Lindholm 2001) are generally considered to

have led to the intensification in the use of land and specialisation of the agricultural sector (Deutsch, Folke & Skånberg 2002). It has been argued that this intensification and specialisation facilitated the enlargement of scale, in terms of both field and farm size (Pretty 1998, Lindholm 2001). Moreover, as the average farm size increased, the number of farms decreased (Pretty 1998).

ENVIRONMENTAL DEGRADATION. I understand that this process of rationalisation in the agricultural sector has affected the non-human environment in at least three fundamental ways. Firstly, the introduction of the tractor induced the enlargement of field size. To facilitate the use of the tractor, stonewalls, hedgerows and other obstacles were to be removed (Pretty 1998, Lindholm 2001). Secondly, specialisation of the agricultural sector led to the specialisation of farms and, as a consequence, to a locally less diverse use of the land. Thirdly, the rationalisation process in Sweden has been accompanied by the abandonment of fields of inferior quality, which either intentionally or unintentionally have became afforested, and led to less diversity at the landscape level in already heavily forested areas.

One of the consequences of this removal of habitats, the increase of monocultures and the afforestation of abandoned fields, has been a general decrease of biodiversity (La Trobe & Acott 2000, Robertson 2000) in the Swedish countryside. I perceive this decrease of biodiversity to be problematic because species diversity is one of the motors behind the functioning of ecosystems. Not only agricultural production is supported by this ecosystem service – i.e. flows of materials, energy and information from natural capital stocks which combine manufactured and human capital services to produce human welfare (Costanza et al. 1998) – also less visible processes such as the purification of air and water, the decomposition of waste products (Lubchenco 1998), the maintenance of soil fertility and nutrient recycling (Björklund, Limburg & Rydberg 1999) are dependent on biodiversity.

DECREASE OF LIVEABILITY. The changes in the agricultural sector in post-war Sweden are considered not only to have induced environmental problems, but also to have led to a decrease of liveability in the countryside (Lindholm 2001). Although local economies never have been closed entities, their importance in the second half of the 20th century can be considered to have decreased at a fast pace. Until the 1950's local economies very much relied on the primary sector, services to the primary sector (e.g. a slaughterhouse or blacksmith) and general services facilitating life in the villages (e.g. a shop or public transport). Through the decline of the number of farms, also the other services disappeared. It could be understood that the decline of the importance of the local economy during the 20th century has been reinforced by the gradual depopulation in the countryside, which in turn was induced by a combination of a surplus of labour capacity at farms and the demand for labour in industries which primarily were situated in urban areas (Myrdal 2001).

Yet, a countertrend can be observed. Gradually, from the 1950's onwards, abandoned farmhouses have been bought by urban citizens to become summerhouses. Later, even newly built summerhouse villages emerged. Some of these summerhouses have become permanent residences for people who decided to live in the countryside after their retirement. Also younger people discovered the virtues of

rural areas and decided to move there. The latter trend principally took place in the countryside near urban centres; many of these younger people commuted. Hence, the process of de- and repopulation of the countryside has been a differentiated process in which the countryside surrounding cities shows population growth, while sparsely populated areas show a further decline of inhabitants (Westlund 2002, Myrdal 2001).

I understand this process of de- and repopulation of the countryside to have invoked two problems, and these in turn induced the emergence and strengthening of local development groups. As a cause of the disappearance of services from the village, the practical act of living in the countryside has become cumbersome. Moreover, as people left the village and new people moved in, the relative cohesion of local social structures diminished. To me, it seems that local development groups attempt to counteract these two problems.

To capture the aspects of 'quality of life' at community level I have introduced the term liveability (paper II). Liveability refers to the (interrelationships between the) number, demographic structure and lifestyle of village inhabitants, community life, service level, local economy and physical place. It thus includes aspects of socio-economic change, as well as land use, as the latter is part of the local economy and affects the appearance of the physical place. Liveability differs from quality of life in that it refers to the complexity of the aspects and their interrelationships at community level, while I associate quality of life with the level of the individual. Moreover, I perceive quality of life to be expressed by indicators that are quantified rather than brought qualitatively in relation to each other, as are the variables of liveability. The term human wellbeing, central to paper IV, is different from liveability and quality of life in that it does not explicitly refer to community level and is associated with basic human needs rather than the act of living in the countryside.

THE POLITICAL AND ECONOMIC CONTEXT OF THESE CHANGES. At least two forces have induced competition in the agricultural sector, which in turn reinforced the processes of environmental degradation and social change: the global economy as it seems to be steered by – amongst others – the World Trade Organisation (WTO) and the Common Agricultural Policy (CAP) of the European Union (EU).

Generally speaking, the WTO is of importance as it steers the global economy through regulating trade between member countries. The agricultural policy of WTO requires that member countries diminish their import impediments and different kinds of support (Swedish Government 2002). Pretty (1998) argues that the WTO has had two consequences for the food system. Firstly, farming has become more concentrated on exports. Secondly, organisations concerned with food and input trading, manufacture and sale, tend to get larger in order to compete on the world market. The mechanism of comparative advantage implies that the gradual globalisation of trade in agricultural products will concentrate rather than open up markets (Pretty 1998).

By becoming a member of the EU in 1995, Sweden has committed itself to the CAP. The goal of national self-sufficiency in basic food products – Myrdal (2001) identifies this as the production objective – that characterised Swedish agricultural

policies in the postwar period (Lindholm 2001), gave way to a support system that inherently reinforced competition between farmers at a European scale.

Above, I have argued that both the global economy and the EU-support system reinforce competition between farmers. One way to explain how this competition leads to a decline in the number of farmers is in terms of the agricultural treadmill (Cochrane 1958). In this explanation it is assumed that because of the presence of a large number of farmers, no individual farmer is able to affect the market price. This in turn favours early adopters of innovations as they benefit financially from increased productivity. This induces the adoption of the innovation at a larger scale. For late adopters the investment is no longer profitable. Eventually, those farmers who cannot keep up with the pace of innovations in the agricultural market have to give up farming (Cochrane 1958, Röling & Jiggins 1998).

In the latter half of the 1990's the debate on the CAP started to include a discussion of the impact of the CAP on the non-human environment and rural development (Myrdal 2001). Paradoxically, this resulted in the reform of the CAP so that it now includes both support for agricultural production and support for specific measures to counteract the negative consequences of this support. Hence, the CAP currently also includes support for cultural heritage and biodiversity (Saltzman 2001), local development and ecological agriculture (Myrdal 2001). Currently, the European Union faces a major challenge as a result of the introduction of a number of new member countries. As the present form of the CAP is considered to be economically unsustainable, discussions about the restructuring of these agricultural policies have taken off.

Linkages between the rationalisation of agriculture, environmental degradation and decrease of liveability

As indicated in the previous part of the introduction, the rationalisation of agriculture, environmental degradation and decrease of liveability in the countryside can be perceived as interlinked. From a spatial perspective it can be argued that the scale at which coevolution (Norgaard 1994) (papers III and IV) between society and non-human environment takes place has increased and changed in character. To use the terms I have explored in paper I, a shift can be observed from an emphasis on self-reliance and self-sufficiency on the local level, to an emphasis on self-reliance and self-sufficiency on the European or even global scale. Moreover, a shift has taken place from an emphasis on Gemeinschaft to one on Gesellschaft.

Being an analytical concept, Gemeinschaft connotes moral unity, rootedness, intimacy and kinship (Selznick 1996). It refers to a natural and unplanned social union of people who depend on each other and between whom exchange is characterised by reciprocity (Borgström Hansson & Wackernagel 1999). In Gesellschaft, on the contrary, people perceive themselves as individuals; human exchange is not determined by local context (Borgström Hansson & Wackernagel 1999). Roughly speaking, it can be said that the shift from Gemeinschaft to Gesellschaft has taken place stepwise during the 19th and 20th century. In this period the phase of relative stability between

land use, local economy and social life gradually fell apart. Local self-reliance (control over decision making; paper I) and local self-reliance (ability to fulfil the local physical needs; paper I) gave way to an emphasis on national self-reliance and self-sufficiency with both space for trade and the participation of Sweden in international decision making bodies such as the United Nations and WTO. After Sweden had joined the EU in 1995, the level at which self-reliance and self-sufficiency is emphasised has been scaled up to the level of the EU.

The sociologist Giddens (1990) understands the processes of scaling up the level at which self-reliance and self-sufficiency is pursued in terms of disembeddedness which he perceives to be caused by time and space distanciation. According to him, social relationships are lifted out from their local contexts and are restructured across indefinite spans of time–space. It is in this way that time and space have become empty dimensions.

The lifting out of social relationships from the local context and their restructuring across indefinite spans of time and space implies the loss of local feedback loops (Borgström Hansson & Wackernagel 1999). Not only does local social interaction diminish, but also interactions between the human and non-human environment at the local level. The result of the loss of these feedback mechanisms is that people no longer are able to receive direct information on the impact of their actions on the non-human environment (paper I). To give a concrete example: a consumer can no longer directly observe the impact of his or her consumption pattern on the biodiversity in rural areas.

Through the loss of feedback loops induced by time–space distanciation, the redundancy (Levin 1999) of the global environment can be assumed to decrease (paper I). That is, the probability of failure in the global system increases as the number of parallel systems of local self-reliance and self-sufficiency decreases (paper IV). As a result, the global system can be considered to have become more vulnerable to environmental and socio-economic crises. These crises can take place as the parallel systems at the local level lose their socio-ecological resilience (van der Leeuw (2000) cited by Milestad & Darnhofer (2003)), i.e. the capacity to lead a continued existence by incorporating structural change. The buffer capacity of these local systems can be assumed to decrease through the loss of local feedback loops.

Currently, a countertrend to the process of globalisation can be observed in the form of a rapid increase in the number of local development groups (paper I) which points to the non-linearity of the coevolutionary process. The process of globalisation has not led to the total wiping out of the importance of the local. In Sweden, new forms of localisation emerge at the same time as the globalisation process continues (paper I).

1.2 Research problem and research questions

In the previous part of the introduction I have outlined how I consider that the changes in the agricultural sector have induced environmental degradation and a decrease of liveability in rural areas of Sweden. In short, the removal of habitats,

increase of monocultures and afforestation of abandoned fields have induced a decrease in biodiversity and, thereby, negatively affected the productive and regulatory functions of the non-human environment. Technological and chemical innovations in the agricultural sector, in turn, caused a surplus of labour in rural areas and depopulation at the first instance. Yet, this process of depopulation soon was counteracted by repopulation in parts of the countryside situated in the proximity of urban areas. The social changes that are induced by this are due to the difference in demographic structure and lifestyle of the people that left, and moved to, this part of the countryside.

The above reasoning – highlighting the impact of the changes in the agricultural sector on the productive and regulatory functions of the non-human environment and on liveability in rural localities – seems to indicate a one-way direction. I do, however, consider the socio-economic system to be part of the environment. Agriculture can be seen as one way in which people interact with the non-human environment in order to support their existence. Yet, it is this agricultural sector that has negative impact on both the non-human environment and society. In other words, the socio-economic system has negative impact on the non-human environment and the socio-economic system itself. An interesting question then might be the reverse, namely whether the socio-economic system potentially could create conditions so that it affects both the non-human environment and itself positively. For that reason I intend to study what role the non-human environment actually plays within liveability. I have chosen to start from the perspective of liveability, because it reflects the lifeworld experiences of rural inhabitants. I assume liveability to have an inherent positive quality and therefore I would like to explore whether it could have a positive effect on land use. I would like to inform the discussion on more ecologically sound forms of land use with these understandings.

To be able to understand what rural inhabitants perceive as liveability, I have decided to concretise my work through focusing on a specific region, namely Linderödsåsen, a region in southern Sweden. The reasons for the choice of this region are specified in section 2, the region itself will be presented in greater depth in section 3. As a result, the discussion in this dissertation will start from the socio-economic and other environmental conditions in this area.

The research questions are formulated as the following:

1. How do village inhabitants at Linderödsåsen perceive liveability? What variables constitute liveability and how do these variables interact according to the perceptions of inhabitants of Linderödsåsen?
2. How do inhabitants of, and visitors to, Linderödsåsen understand the role of the non-human environment in the pursuit of liveability at Linderödsåsen?
3. How can the lifeworld perceptions of the role of the non-human environment in the pursuit of liveability be integrated in the scientific discussion of ecological land use?

The three research questions are hierarchically related in that the second question is a subquestion of the first, while the third question links the researcher's interpretation of the processes at Linderödsåsen back to the scientific discourse. The research

will be of an envisioning character in that it searches for potential ways to facilitate ecological land use.

1.3 Assumptions and objectives

Social constructionist research paradigm

In this dissertation, a social constructionist perspective is taken as point of departure. Social constructionism can be considered as an overall scientific approach that determines which scientific questions are asked, what research methods are adopted to answer these questions, and how the results are presented. To get a better understanding, constructionism needs to be contrasted to positivism in terms of its epistemology (claims to knowledge framed by the relationship between the researcher and the researched) (Tacconi 1998) and ontology (claims about the nature of reality) (Tacconi 1998).

The epistemological position of the positivist paradigm is that the observer and the observed objects are independent of one another. The researcher is not considered to be part of the system he or she investigates (van Eijk 1998). Constructionism assumes knowledge to be socially and experientially constructed (van Eijk 1998, Tacconi 1998). There can be no models of the 'real' reality, models can only represent a reality. Scientific statements are therefore but one particular kind of statement about how we are coupled to our environment and what we may learn about it. The epistemological approach to constructionism is that the researcher is introduced into the analysis and concepts (Ramirez 1999), and becomes part of the system that is investigated (Pearson & Ison 1997, Tacconi 1998).

The ontological position of the positivist paradigm is that concrete reality really exists (Tacconi 1998). This reality is governed by natural laws and can be known through the senses (van Eijk 1998). For that reason, the methodology of positivism is experimental testing, resulting in research findings that are conventionally held to be objective, reliable and true. Scientific knowledge is considered to be universal and context-free (van Eijk 1998, Tacconi 1998). The ontological position of the constructionist paradigm says that all statements about the nature of reality necessarily are interpretations, i.e. social constructs (Pearson & Ison 1997, Tacconi 1998). As such, the materiality of the world is not denied, nor is it denied that reliable knowledge about this can be generated. The claim is, rather, that what is considered reliable knowledge is constructed in language, and constructed by, and in, social relationships.

In a briefing note for a graduate seminar on constructionism held on the 17th of February 1999, Jiggins points to a number of additional characteristics of social constructionism. Theorising is seen as guided by an open dialogue or deep conversation among different models and frameworks. Further, constructionism does not try to explain one set of social phenomena in terms of another set. Rather, it allows the study of impure phenomena and provides a framework for studying details in context. Society is seen as a historical form which emerges contingently. As people hold different positions with respect to the experience of their environment, knowledge is contested. The term social construct is used to denote such particular viewpoints or

perspectives on reality, unique to individuals, and specific in time and place (Pearson & Ison 1997).

Extreme forms of constructionism can be criticised for their denial of biophysical constraints on social life (Tacconi 1998, Woodgate & Redclift 1998). Instead, in this dissertation a moderate constructionist approach is taken. It is assumed that there exists a physical reality that is subject to different interpretations (Tacconi 1998). It is this interpretation that allows us to draw on both natural and social sciences, both in the role of non-human environment as in providing humanity's basis for existence, and in society's multiple interpretations of this.

Choosing the constructionist paradigm as point of departure implies a certain stance with respect to the social and natural sciences. Although even within disciplines (e.g. sociology) subdisciplines can be distinguished which either draw on the constructionist or positivist paradigm, social science disciplines, can, broadly speaking, be assumed to take a constructionist stance, whereas natural sciences are generally associated with a positivist approach. As a consequence of departing from a social constructionist perspective, it tends to be easier to take social sciences on board, than is the case with natural sciences. Nonetheless, also the natural sciences can play a role in the constructionist perspective, especially in a situation where they are perceived to illuminate one out of a number of interpretations of reality. Solutions to the problem of unsustainable land use, as proposed by natural sciences, can be viewed in this way. I consider the field of ecological land use to be socially constructed, and I understand contributions of the natural and social sciences as alternative, and complementary, ways to solve these problems.

The contextuality of theory

The kind of theory that is pursued as an outcome of this research project is intended to help simplifying representations of a complex reality in order to understand key elements in the representation and their interrelationships (King 2000). I consider answers to the research questions to be satisfactory if they generate theory that is characterised by rationality (the theory hangs together logically, without obvious inner contradictions), relevance (the theory is accompanied by interpretive principles relating it to the empirical world), and extensibility (the theory explains more facts than it was originally intended to cover) (King 2000).

The assumption of social constructionism places boundaries around the definition and characteristics of satisfactory theory. Social constructionism suggests that no single reality exists and that only interpretations of a reality can. From an ontological viewpoint this entails the pursuit of quality rather than truth (Funtowicz & Ravetz 1994). The principle of quality enables the management of irreducible uncertainties and ethical complexities that are central to the resolution of societal issues (Funtowicz & Ravetz 1994). The epistemology of social constructionism tells us that the researcher is part of the system investigated. Therefore research is not only value-laden (Söderbaum 1999), theory is too. In this vein, theories can be conceived as interpretations made from given perspectives as adopted or researched by researchers (Strauss & Corbin 1994). By maintaining that theories should allow us

to construct models of social processes in order to be able to structure and interpret shifting social realities (King 2000), the criterion of utility or usefulness is mirrored. As the world is in constant change, so does society's interpretation of what might constitute a useful theory. Therefore, all theories should be regarded as time-limited, i.e. they are never established forever (Strauss & Corbin 1994). Moreover, as non-human and human contexts might differ from place to place, also the spatial context of the theory needs to be taken into consideration.

Personal objectives

Part of social constructionism is the assumption that all research is value-laden. Research cannot be objective and it is therefore important that a researcher clarifies his or her assumptions and objectives so as to facilitate the assessment of the work by the reader.

Throughout my academic career the link between non-human environment and society has been of central interest. Yet, to focus on this relationship has been difficult due to disciplinary boundaries. During my undergraduate studies at Wageningen Agricultural University, The Netherlands, I experienced that rural development studies did not deal enough with issues of the non-human environment, whereas forestry and nature conservation tended to minimise their attention to the people affected by these practices. I therefore started my PhD studies with the explicit objective to work on the interface between the non-human environment and society. Land use cannot be sustainable without taking stakeholders into account, and similarly, society cannot be sustainable as long as issues concerning the non-human environment are not dealt with effectively.

I regard sustainability to be worth pursuing so as to allow the next generation to live a life that is qualitatively equal or better than that of the current generation. As ecological land use assumes sustainability of the non-human environment, and liveability assumes social and economic sustainability, I regard the pursuit of ecological land use and of liveability to be complementary processes.

With respect to science, I find myself positioned in two different ways. Firstly, I usually feel eager to read a lot of theoretical literature from a variety of disciplines. Part of my interest in theories and concepts is my wish to find linkages between them in order to come to new, creative perspectives on the human – non-human environment interface. At the same time I am also critical about scientific argumentation, as I especially perceive the treatment of the role of people in the empirical fields of agriculture, forestry and nature conservation to be of an unnuanced kind. This has been the major reason to combine local and scientific knowledge in my research and to pose the research questions in the sequence they are. That is, I let my interpretation of the lifeworld understanding of liveability, and the role of the environment in this, inform the scientific discourse on ecological land use.

Overall, my objective has been to envision and explore new ways of thinking about ecological land use, grounded in my interpretation of lifeworld experiences at Linderödsåsen. I would like my discussion of ecological land use to be of value in the scientific debate, in the work of policy-makers (e.g. in the light of the reform of the

CAP in the near future) and for organisations and individuals who work in the fields of ecological land use and/or local development.

1.4 Structure of this dissertation

This dissertation consists of two parts. The objective of the first part has not only been to introduce the subject matter that is dealt with in the papers that are presented in the second part, the objective has also been to place these in a wider political, economic and social context and to explore the consequences of their content for the scientific discussion of ecological land use.

This part consists of 6 sections. In the introduction (section 1), a discussion is given on how the rationalisation of agriculture, induced by the global economy and EU-policies, has caused environmental degradation and a decrease of liveability in rural areas in Sweden. The disembeddedness that is a result of this process has led to the loss of local feedback loops and a decrease of the redundancy of the global systems. The objective of this dissertation has become to explore whether liveability could potentially have a positive effect on land use at the same time as it would positively reinforce itself. The way liveability is perceived will be explored as well as the role of the non-human environment in it. The latter will inform the scientific discussion on ecological land use. This section concludes with an explanation of the researcher's assumptions and objectives which undoubtedly influenced the current work.

Section 2 discusses interdisciplinarity, methodological issues and the general research process. As this dissertation addresses the interface between the human and non-human environment, an interdisciplinary research approach was required. Such a research approach requires that epistemological and ontological considerations are clarified. The methodology has been threefold: semi-structured interviews, participatory rural appraisal and a questionnaire survey. How these methodologies have been worked with, as well as the assumptions behind them, has been explained. Section 2 is concluded with a short description of the general research process.

In section 3 the case study area is presented. The interview study has been carried out in Skåne, the southernmost province of Sweden. Part of Skåne is Linderödsåsen; the questionnaire survey addresses this region. The PRA has been executed in two villages at Linderödsåsen, namely Eljaröd and Äspinge.

Section 4 deals with the framework of liveability as a heuristic model. Within this framework, the linkage between community life and local economy was considered important by the participants in Äspinge; these key concepts are considered critically. Finally, the discussion of liveability is placed in the wider political, economic and social context.

The role of the non-human environment in liveability is the topic discussed in section 5. Here, the metaphor open landscape and the collection of edible mushrooms are discussed as two examples of the role of the non-human environment in liveability. A shift has been observed from a sole emphasis on the production value of the landscape to an inclusion of the landscape's experiential values. Yet, this environment bears different meanings for different persons. The commodification of

the physical place and the ways in which the political, economic and social context reinforces the role of the non-human environment in liveability are discussed.

In section 6 the implications for the scientific discussion of ecological land use of the subject matter of section 5 have been explored. It is argued that ecological land use requires a learning perspective which could be facilitated by localisation of resource use and decision making. People's attachment to place, knowledge about the impact of their behaviour on the non-human environment and the social pressure they perceive to perform certain behaviour, as well as the relations between these variables, influence their action in the non-human environment. This approach to ecological land use and the pursuit of liveability are considered complementary processes. After discussing the political, economic and social context of the learning approach to ecological land use, challenges for the future reforms of the CAP and some recommendations for further research are discussed.

The second part is formed by four papers. Paper I is called 'The potentials and limitations of self-reliance and self-sufficiency at the local level – views from southern Sweden' and describes a theoretical framework for thinking about self-reliance and self-sufficiency at the local level as one strategy for sustainable local development. Localisation can be regarded as a reaction to the process of globalisation, and can be interpreted in terms of governance and resource use. Self-reliance is related to control over decision making, whereas self-sufficiency refers to fulfilling an individual's or group's physical needs, and thus is linked to resource use. The findings of an interview study concerning self-reliance and self-sufficiency at the local level are presented and discussed in relation to the framework. The strengths of self-reliance and self-sufficiency are found in the opportunities that these provide for human-scale, territorial development processes which, through their local scale, generate the possibilities of taking into account feedback from the non-human environment, and building redundancy into the global system. Paper I is published in *Local Environment*.

In the past few years, the discussion of local development has enjoyed contributions on issues such as rural economy, local governance and policies. Yet, the question is whether these issues reflect the perspectives of rural inhabitants. For that reason, paper II, 'Liveability: community life and local economy in two Swedish villages' presents an empirical study of the perceptions of actors in these villages about issues connected with the 'quality of life' at community level that is pursued in local development. To capture these aspects, the researcher has introduced the term liveability. Liveability consists of (the interrelationships between) the number, demographic structure and lifestyle of the local inhabitants, community life, service level, local economy and physical place. That actors, because they have different interests, emphasise different aspects of the framework of liveability is illustrated with the example of people's relations to the physical place. Yet, the participants in the two villages considered the relationships between community life and local economy to be crucial in the pursuit of liveability. Community life incorporates a sense-of-community (the intrinsic value of community) and social capital (the instrumental value of community), and these are considered to be two sides of the

same coin. Through the accumulation of social capital, community life is considered to be a precondition for, and reinforcement of, local economic development. Paper II has been submitted to *Journal of Rural Studies*.

During the past few years, rural sociology has enjoyed several contributions to the debate on the culture-nature dualism. There is nevertheless a relative lack of grounding of these theoretical contributions in empirical work; the cases brought forward are mainly of an illustrative kind. For that reason, paper III, 'Dealing with relations between culture and nature at grassroots level – the case of the metaphor open landscape' deals with a case study in order to illuminate an example of how is dealt with relations between culture and the non-human environment in the lifeworld. It is through the metaphor open landscape that actors in a Swedish community express their preferences for the physical appearance of the landscape. Social constructionist approaches to the landscape allow insufficient credit to be paid to these actors' perspectives as they tend to overemphasise the extent to which people are able to steer interactions with their non-human environment. The perspective of coevolution fits better, as it assumes a dynamic process between the ways in which the non-human environment shapes the boundary conditions for human action and the impact of human action on that environment. In doing so, the coevolutionary perspective transcends the culture-nature dichotomy. This paper has been submitted to *Sociologia Ruralis*.

One of the contributions to ecological economic thinking is Norgaard's (1994) notion of coevolution. In paper IV, 'The life-supporting environment and human wellbeing: physical, economic and psychological dependence', one specific interaction of the coevolution of the human and non-human environment is lifted out, namely the way in which the non-human environment supports human wellbeing. The results of a questionnaire survey into the collection of edible mushrooms, being an example of natural resource use, are reviewed. The importance of this activity is discussed in terms of the intentions of the collector and should be understood not in terms of physical or economic dependence on the non-human environment, but rather as psychological dependence. Mushroom collection induces an emotional affinity with the non-human environment. The findings of the questionnaire survey are linked back to the discussion of the coevolution of the life-supporting environment and human wellbeing. The non-human environment supports human wellbeing not only physically and economically, but also psychologically. In the conclusion, it is argued for the importance of emotional relationships to the non-human environment for the adaptive management of natural resources.

2 Interdisciplinarity, methods and research process

2.1 An interdisciplinary research approach

In general, two broad types of research approaches can be distinguished. One starts within a specific discipline, like sociology or ecology, the other within an empirical (or thematic) field (Anonymous 2000). An empirical field is one in which a certain

theme is the central focus, e.g. local development or ecological land use, which is approached by a number of disciplines.

This dissertation is placed in the empirical fields of local development and ecological land use at the interface of the human and non-human environment. An interdisciplinary research approach is consistent with the theme. Relations between human and non-human environment are complex and can hardly be mastered by one researcher, one isolated perspective, or one discipline alone. An interdisciplinary point of departure is indispensable (Lisberg Jensen 2002).

The call for interdisciplinary is reflected in the discussion of pluralism found in ecological economics. Funtowicz & Ravetz (1994) reject the image of science as delivering truth. Instead, they adhere to the new organising principle of quality and call their approach post-normal, as a reminder of the contrast to the puzzle-solving within the paradigm of the normal sciences. Post-normal science is based on dialogue and accordingly recognises a plurality of legitimate perspectives. As such it is commensurable with social constructionism. The inherent and necessary multiplicity of perspectives requires a pluralism of methodologies (Funtowicz & Ravetz 1994). In contrast to the disciplinary sciences that provide fragmented, incomplete insights, conceptual pluralism assumes the achievability of multiple insight and the inherent inability of disciplinary science to describe complex systems consistently (Norgaard 1994).

The scientific argument for conceptual pluralism by Funtowicz & Ravetz (1994) and Norgaard (1994) can be translated into a more practical argument. To understand the dynamics behind the coevolution between society and the non-human environment, six kinds of processes need to be taken into account:

- those between elements of the non-human environment
- those between individual members of society
- those within persons
- those between the non-human environment and society
- those between the non-human environment and persons
- those between persons and society

That the understanding of these processes requires different kinds of disciplinary understanding might be obvious to the reader. Yet, neither of these processes alone can effectively deal with the interactions between society and the non-human environment – and hence an interdisciplinary research approach is needed. In other words: in order to generate satisfactory answers to problems that address the interface between society and the non-human environment, interdisciplinarity is required (Anonymous 2000, Egneus, Bruckmeier & Polk 2000).

In my research I have found two aspects that are of crucial importance in interdisciplinary research processes:

- Epistemological and ontological assumptions can differ from discipline to discipline as well as within disciplines. Although not similar within the natural, economic and social sciences per se, epistemological and ontological assumptions are more likely to be commensurable within these groups than in-between

(Egneus et al. 2000, Anonymous 2000). As epistemological and ontological assumptions might influence the choice of research methods, the treatment of scientific and lay accounts, analytical methods and the style of presentation, conscious choices have to be made and reflected upon.

- Interdisciplinarity as represented by an individual researcher implies that the researcher combines a number of disciplines. Interdisciplinarity can, however, also be interpreted as working together in a group in which the members represent different disciplines. In the latter case, important determinants affecting the outcome are – amongst others – differences in research traditions, the respect in which the different disciplines are held, and the personality of the researchers.

An interdisciplinary research process – epistemological considerations

As indicated in section 1, as my academic career has progressed I have gradually shifted from an emphasis on natural sciences to one on social sciences. Holding an undergraduate degree in applied natural sciences, I decided in my PhD work to take a social science perspective.

Having a natural science background, I instantly felt comfortable with working in the Research School in Ecological Land Use. In this research school, nine PhD students from four Swedish universities have taken a number of courses (mainly in ecology) together. Independently from this course-work, the students have together also worked on a common project – namely an attempt to write an article on global food security. In my interactions with the other students in the research school, I have experienced that dialogue is based in different epistemological and ontological assumptions and that it is important to state these explicitly. I have also realized the importance of referencing statements to specific scientific traditions and real-life contexts.

The experiences of my undergraduate education in forestry and those of the Research School in Ecological Land Use have benefitted my individual research project. Working with an interdisciplinary research approach, I felt it was necessary to make explicit how I myself relate to different epistemological and ontological stances. The constructionist approach I have taken implies the ontological assumption that all statements about reality necessarily are interpretations and that, consequently, the epistemological position that the researcher is part of the system investigated, needs to be assumed.

In my opinion, such a constructionist paradigm creates possibilities for interdisciplinarity. Through assuming the researcher to be an active actor in the research process, it opens up for discussions on ontological and epistemological issues, as well as issues of value. The ontological position of constructionism allows for the integration of knowledge from different disciplines as these are considered to have equal (relative) value, as does experiential knowledge from the lifeworld.

The interface between human and non-human environment – ontological considerations

Considering that I work on the interface between human and non-human environment and draw from both the social and natural sciences, it is important to clarify how I look at the relationships between these. I have searched for an ontology that would allow me to study land use and liveability in relation to each other and which would therefore also allow me to bridge the gap between the natural and social sciences. In paper III, I have clarified that I perceive human society as part of the global environment. People differ from other animals through their ability to describe and render accounts of their actions discursively, to themselves and to others (Ingold 1992). As a result of this ability, people are able to purposefully direct their interactions with both their human and non-human environment in their direct surroundings. This understanding of the role of people as part of the global environment seems to be in line with the ideas of the anthropologist Ingold (1992), whose notion of the mutualism of person and environment often is regarded to transcend the culture–nature dualism. Therefore, Ingold's (1992) definitions of nature, environment and culture, as well as his discussion of what constitutes meaning, are adopted in this dissertation.

Ingold (1992) defines nature as the reality of the physical world of neutral objects that is apparent to the detached observer. The environment consists of reality for the world constituted in relation to the organism or person whose environment it is. Environment thus refers to the meaningful world as perceived by a specific organism. People, as organisms-persons, exist in a world that is inhabited by both human and non-human beings. Relationships between people, which we usually call social, are a subset of the environment (Ingold 2000). Ingold (1992) understands culture as a framework for interpreting the world, to oneself and to others. Language and symbolic thought are needed to make knowledge about the world explicit. The meanings that we find in the world are already there in the information that we extract in the act of perception (Ingold 1992). Hence, objects can have meaning to a person only on the condition that they are part of that person's environment. It is in their action that people know the environment and come to perceive its inherent potentials (Ingold 1992).

From the above it can be concluded that I consider society, like the non-human environment, to be a subsystem of the (global) environment[1]. I prefer not to use the term nature, as I consider all nature to be meaningful (see paper IV and section 6).

[1]The reader will, however, observe that the distinction between human and non-human environment, as well as the one between the (meaningful) environment and (objective) nature, is not followed throughout the dissertation and papers. Some exceptions are made. The first addresses the term environmental degradation (and related notions like environmental problems and environmental crisis), a term commonly used to denote the degradation of the non-human environment. Whereas the first can be considered a commonly used term, other exceptions are a result of the papers being written in the scientific traditions of the respective journals. Paper III discusses the culture–nature dualism. Although I explicitly assume that there can be no objective nature, the word nature emphasises the meaning of this dualism here. The discussion of the culture–nature dualism is, in part, a reaction against the treatment of nature in the natural sciences as being something objective. Similarly, the term natural resources could be considered to have an internal contradiction; as nature is a resource it inherently is meaningful. Finally, in paper IV, the term

Yet, the term nature makes sense in the positivist ontology as this assumes nature to be objective and perceivable by an objective observer. Land use is a way in which people purposefully steer their interactions with the non-human environment in their direct surrounding. Such activities are influenced by a person's factual knowledge regarding the effect of his or her behaviour, the social pressure that he or she perceives to perform (or not to perform) the activity in question (Ajzen & Fishbein 1980), and by the meanings that the environment holds for the person (Kaiser, Wölfing & Fuhrer 1999) (paper IV). Consequently, it can be understood how a person's interpretation of reality influences land use decisions. Liveability refers primarily to processes within society, but includes a link to the physical place. Hence, defined in these ways, both land use and liveability link aspects of the human and non-human environment.

2.2 Methodology

In order to answer the research questions, a number of methods have been employed. Part of my personal objective of doing a PhD has been to experiment with different research methods in order to be able to reflect upon, amongst others, their utility. Three types of methods have been used: semi-structured interviews, participatory rural appraisal (PRA) and a questionnaire survey. The interview study and PRA can be considered qualitative methods, the questionnaire a quantitative method. The choice for an emphasis on qualitative research methods (in terms of the time devoted to them and the importance of the findings derived from them) is related to the social constructionist assumption I have made.

A common denominator of all methods is that they have been carried out in Skåne (interview study), at Linderödsåsen (questionnaire survey), and in the villages of Eljaröd and Äspinge (PRA) in particular. The advantage of doing so has been the complementarity of the studies. In such way, the studies can be perceived as illuminating different aspects of the same context, in this case Linderödsåsen, and the findings of one study could in turn inform those of another study.

My decision to work in Skåne is grounded in the fact that I, at the time I was a PhD candidate, have been living in this region. I have chosen to explore ecological land use and liveability in a context of which I did not know specific characteristics in advance. I learned about its unique qualities while working there. Although I assume each locality to be unique, my wish to study a 'normal' situation, rather than 'good examples' lies behind my choice for doing so. That I did the participatory work in Eljaröd is a consequence of this village happening to have a local development group that was registered in a database of such groups, and that this group was willing to cooperate with me. I came in contact with my informant in Äspinge as a result of the interview study. The emergence of a local development group here was in its cradle. The group of initiators saw that my research could potentially reinforce their work and therefore agreed to cooperate.

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life-supporting environment is used to refer to the ways in which the non-human environment supports human life.

TABLE 1. Characteristics of the respondents and participants in the empirical work. Number, age and sex of the interviewees/respondents/participants (numb.); relevant characteristics of the interviewees/respondents/participants (char.); mode of invitation (mode); representativeness (repr.).

semi-structured interviews	numb.	12 respondents (7 men and 5 women), all in working age
	char.	working in the field of agriculture, forestry, rural development and/or otherwise interested in local self-reliance and self-sufficiency
	mode	approached by the researcher
	repr.	politically active persons
participatory rural appraisal		
workshops	numb.	between 7 and 16 participants, varying sex division, emphasis on retired people
	char.	farmers, people born in the village, a few rural entrants (who were well integrated in community life)
	mode	general invitation through distribution of leaflets in village shop
	repr.	variable: politically active persons and people interested in community life
field walks	numb.	between 7 and 17 participants, rather equal sex division, adults with a slight emphasis on retired people
	char.	farmers, foresters, people born in the village, rural entrants and some participants from neighbouring villages
	mode	general invitation through leaflets distributed door to door and attention in local media
	repr.	emphasis on people with an interest for the locality
study circle	numb.	between 6 and 14 participants, emphasis on female participants, between 4 and 9 people in working age
	char.	primarily members of the local development group and some members of local development groups of neighbouring villages
	mode	general invitation through leaflets distributed door to door and personal letters to contact persons of local development groups in neighbouring villages
	repr.	people active in local development
questionnaire survey	numb.	116 respondents, of which 60% men and 40% women, varying age structure (majority between the age of 30 and 75)
	char.	in decreasing order: people born in the region, tourists and other visitors, summerhouse owners, farmers and foresters
	mode	mail survey to 100 randomly selected households and approaching everybody passing a certain place in the forest
	repr.	representative for people living in the area and people making use of the forests

Semi-structured interviews

The first issue I wanted to explore in my research has been local self-reliance and self-sufficiency. Could local self-reliance and self-sufficiency potentially be a way to integrate ecological land use and local development? In order to explore this question, I have, in October 1999, carried out twelve semi-structured interviews with a variety of actors in (primarily) Skåne. In Table 1 some characteristics of the participants in this interview study are outlined. The interviewees were visited in a place familiar to them (at home, at work or in a local café). After a short introduction about the objective of the study, the aim was to interview them on the subject of local self-reliance and self-sufficiency. In the interview, I had a checklist of issues I wanted to be discussed, but the direction of the interview was very much determined by the interests and arguments of the interviewee. It could, thus, happen that issues on my checklist were not discussed, because these were not within the line of thinking of the respondents. The interviews lasted between, approximately, one and three hours and have not been recorded. Instead, I have taken notes that were worked out directly after the interview. In doing so, I focused on the main theme and the kind of issues taken up, rather than on details and exact formulations.

Kvale (1996) describes a semi-structured interview as an interview whose purpose is to obtain descriptions of the interviewee with respect to interpreting the meaning of the described phenomena. Initially, the method had been chosen in order to explore and describe issues related to local self-reliance and self-sufficiency. In conducting the interviews, I learned that these could head in very different directions, depending on the interests of the interviewee and whether the interviewee chose a more concrete or a more abstract level of argumentation. For those reasons, the interviews were hard to compare. I have, nevertheless, looked for a synthesis of the issues mentioned in order to create a rich picture of the problem field of local self-reliance and self-sufficiency. In this rich picture, the contributions of the interviewees can be considered fragmentary. I consider the semi-structured interviews to have been an effective methodology for this exploratory and descriptive study. Whereas the interviewees had influence on the direction of the interviews, the researcher defined and controlled the situation (Kvale 1996) and was responsible for the analysis and synthesis of the findings.

Participatory rural appraisal

The major part of the empirical work of this dissertation consisted of participatory rural appraisal (PRA) (Chambers & Guijt 1995) in the villages of Eljaröd and Äspinge. This PRA has been executed in three different contexts: a series of workshops in Eljaröd, and field walks and a study circle in Äspinge. In these contexts I have used a variety of methods within the PRA-paradigm. The specific methods and the three contexts will be discussed in subsequent subparagraphs.

Most important for my choice to work with participatory methods has been my desire to receive a ‘community perspective’. Table 1 shows that the group of participants has not necessarily been representative of the inhabitants of the village. Moreover, communities-of-place inherently display a wide range of interests. I therefore

TABLE 2. Specific methods in participatory rural appraisal: plenary sessions.

Specific method	Description	Used where?		
		work-shops	field walks	study circle
General discussions	Discussions with the whole group.	×	×	×
Brainstorming	Collection of ideas, written down on a piece of paper, of all participants around a specific question and a general discussion on basis of the collected notes, as well as an attempt to place these contributions in relation to each other.	×		×
Specific questions	Collection of the ideas of all participants through letting each of them answer the specific question and followed by a general discussion.	×	×	×
Invitation of speakers	Invitation of speakers to talk about a specific topic, followed by a facilitated discussion of the contribution of the speaker(s) to the objective of the meeting.	×	×	×
Narratives	Letting the participants tell their own story, while the group finds itself in the place the story relates to.		×	
SWOT-analysis	Analysis of the strengths, weaknesses, opportunities and threats of the village with respect to a specific question.			×
Relational diagram	The researcher presents a relational diagram in which an attempt was made to summarise the discussions of the previous session(s), followed by a discussion of the accuracy of the diagram.	×		×

prefer to talk about the participants' perspective. What I have thus aimed at is to obtain an integrated perspective rather than fragmentary pictures, as had been the case in the interview study. It can, nonetheless, be expected that such an integrated perspective approaches the 'community perspective' better than the perspective I would have received if I had synthesised the perspectives of individual participants.

Another important consideration behind participatory methods has been my wish to learn about what participants find important. Although trying to follow the line of

TABLE 3. Specific methods in participatory rural appraisal: sessions in subgroups.

Specific method	Description	Used where?		
		work-shops	field walks	study circle
General discussions	General discussions in a subgroup around a specific topic, followed by a plenary session in which the discussions of the subgroups are presented and discussed.	×		×
Specific questions	The subgroups try to formulate answers formulated by the researcher, followed by a plenary session in which the answers are presented and compared.	×	×	×
Ranking	The subgroups are asked to rank issues according to their importance, followed by a general discussion of the exercise.		×	
Venn-diagram	The subgroups are asked to identify actors who influence local development in their village and subsequently to organise these according to their perceived power.			×

thinking of the interviewees, I have been aware of the role of myself, the researcher, in determining the direction of the interviews. It even appeared to me that the topic of local self-reliance and self-sufficiency was not of interest for all of the respondents. I decided to work with participatory methods in order to be able to take better into account the interests and concerns of the participants. Yet, it will be seen in the presentation of the specific methods that a balance has always to be found between the interests of the researcher and those of the participants.

SPECIFIC METHODS. PRA acknowledges that not all people communicate in the same way. Some people feel comfortable with discussion, other people prefer to communicate through action. Similarly, some people are used to communicating at a very abstract level, whereas others prefer to talk about concrete examples and contribute with their own experiences. Hence, different types of knowledge can be distinguished. Propositional knowledge is knowledge about something, expressed (abstractly) in statements and theories. Experiential knowledge is gained through direct encounter face-to-face with persons, places or things. Practical knowledge is gained through practice and expressed in skills or competence (Reason 1994). Other aspects influencing group dynamics are the personalities of the group members and (invisible) power structures, as groups usually contain both dominating and quiet

members. As the objective of PRA is to include the perspectives of all participants, the choice of methods needs to be adjusted to the considerations above.

In all three contexts – workshops, field walks and study circle – I have chosen to work with a variety of methods (see Tables 2 and 3). The methods have addressed different types of communication and were consulted in an alternating structure.

In all contexts, plenary and group sessions alternated. Whereas group sessions aimed at exploring a variety of perspectives through enabling more people to contribute, plenary sessions had the aim of generating an integrated perspective. Sometimes brainstorming (Chambers 1992) exercises were carried out too. People were asked to answer a specific question (e.g. what do you consider important for liveability in Eljaröd?) and to either write their answer(s) on small pieces of paper or to talk about their thoughts to each other. In cases when notes were collected, the participants could stay anonymous as the facilitator collected them and read them aloud in front of the group. Afterwards, a discussion on the different kinds of, or relationships between, contributions arose. In cases when people were asked to answer the question orally, a discussion emerged naturally.

Both in the plenary and group sessions, discussions on specific questions alternated with general discussions. It is here that a balance was sought between the interests of the researcher and those of the participants. As a facilitator, I could ask a specific question (usually prepared in advance) in order to focus on an aspect I wanted to know more about. Yet, more general discussions could integrate the participants' concerns better as these participants had more space to influence the content. From the researcher's point of view, these general discussions were informative as the concerns of the participants were put forward. Those perspectives could in turn help me to adjust my perception of the interpretation of liveability by the participants in Eljaröd and Äspinge.

Another meaningful experience for me, being a researcher, has been the invitation of external speakers. Who were to be invited was decided by my informants. I will give two examples of the ways in which the invitation of speakers turned out to be a meaningful experience. At the first workshop in Eljaröd, the discussion focused around the local economy and ways to make this more robust. The discussion focused on development from within. To the second workshop, a representative from the forest industry was invited. Wearing a suit and using overheads with a lot of figures and numbers, he held a speech about the importance of trade for the forest industry at Linderödsåsen. In the light of the first workshop, I was surprised to see that the participants seemed to agree with him. I interpreted this to indicate that the participants in Eljaröd had a relatively uncritical stance towards the perspectives that were presented to them.

The second example comes from Äspinge. At the second meeting my informant from Eljaröd was invited to speak about local development. Her presentation focused on the crucial importance of tourism for local development at Linderödsåsen. The participants reacted strongly against this, as they did not consider tourism to be an appropriate solution for Äspinge. As one women explained 'I do not want to become a tourist attraction myself'. To me, this incidence showed that the participants in

Äspinge seemed to be more reflexive to the perspectives presented to them. In all, the invitation of speakers has been a meaningful experience for observing the reactions evoked (or not) by external perspectives.

In both Eljaröd and Äspinge, I have summarised the discussion of the previous meeting(s) and presented these to the participants in the form of a relational diagram (Chambers 1992). In these diagrams the aspects (and the interrelationships between them) brought forward by the participants were summarised. For me, it has been a check to see whether I had interpreted the participants' views correctly. For the participants such a structured presentation of the previous discussions turned out to be helpful for understanding their own situation better. In both cases, the relational diagrams formed the basis for further discussions in which slight adjustments to the diagrams could be made. Further examples, derived from local experience, were explored to 'test' the diagram.

Ranking (Chambers 1992) was a specific exercise carried out during the second field walk in Äspinge. The participants were divided into subgroups and asked to distinguish different actors who influence the physical appearance of the landscape. Next, these actors had to be ranked according to their importance. This exercise formed the basis for a discussion based on the comparison of the results of the different subgroups.

In the field walks I have also worked with stories (Clandinin & Connelly 1994). Being in the landscape, I let people tell their stories about the place we were in. Although the rain was pouring down during one of the field walks, the discussions were lively and enjoyable and the narrators were eager to show specific places. For the participants, the landscape contained a lot of stories. From a researcher's perspective, the narratives were meaningful as I could listen to the content of the stories and analyse the way in which people talked about their experiences. Narratives are one example of communication embodied in people's actions.

Another concrete exercise was a SWOT-analysis. In a plenary session in Äspinge, the strengths, weaknesses, opportunities and threats of local development were analysed. As these strengths, weaknesses, opportunities and threats turned out to be rather concrete, the SWOT-analysis tended to widen the discussion through focusing in all four directions in a concrete way.

The last concrete exercise conducted in Äspinge was a Venn-diagram (Conway 1989). The participants were divided into two groups. First, they were asked to list external actors who influence local development in the village. Subsequently, the actors were organised on a flipchart in which the village was drawn in the middle and each actor was represented by a circle. The size of the circles indicated the perceived power of the actor. The distance at which the circle was placed from the village reflected the influence the participants perceived that the community had on the actor.

WORKSHOPS. In Eljaröd, four workshops were held during February and March 2000. The workshops took place in the evening on weekdays and each lasted three hours. The village inhabitants were invited through leaflets that were personally given to them by the shopkeeper – my key informant – when people did their daily

shopping in the village shop. In Table 1 some characteristics of the participants are summarised. Between seven and sixteen people attended the workshops, which took place in a building that once was the village school. The average age of the participants was high, but the workshops were attended by between three and eight people who were still in a working age. The division between men and women has been variable, ranging from a majority of elderly women on one occasion and mainly men on another.

The aim of the workshops in Eljaröd was to give an impulse to the local development processes in the village and for the researcher to get insight into the issues the participants consider to be important. The themes of the evenings were determined together with my key informant in the village. The themes of the four evenings were respectively: food, the distance between producers and consumers (in the forest production chain), a comparison of land use and liveability in Eljaröd between 1960 and 2000, and the local economic structure and social capital. The specific methods employed during the meetings are summarised in Tables 2 and 3. As a facilitator, I have taken notes of the discussions on flipcharts, and I collected the data from specific exercises. Directly after the meetings I sat down and completed my notes, after which, between the two meetings, I made a first analysis of the data.

Specific for the series of workshops has been that people were invited to the separate workshops and that the invitations emphasised the specific themes of the meetings. The invitation also mentioned that food would be served at the workshops. Partially as a consequence of this, there was only little continuity in the group of participants. Moreover, some of the participants were attracted to the workshops because of the opportunity for social interaction (e.g. an evening with primarily elderly women) rather than the themes of the workshops themselves.

FIELD WALKS. In close cooperation with the local development group of Äspinge, three field walks were organised. This group organises guided walks each year. This time, the group decided to cooperate with me, a researcher, in order to continue the tradition and to integrate the walks in the general discussion on local development which the group had initiated, and in which I would become involved too (the study circle). In the spring of 2000, it was decided that I would facilitate the walks. People were invited to participate through leaflets that were distributed from door to door and through attention in the local media. Although not stated explicitly in the invitation, the walks have had separate themes. Together with my key informant, I decided to focus on how people perceive the landscape, the actors who influence the physical appearance of the landscape and the utilisation of natural resources, respectively.

Some characteristics of the participants are summarised in Table 1. Between 7 and 17 people participated, mostly coming from the village itself, but also some coming from neighbouring villages. Among the participants were members of the local development group, farmers, forest owners, people born in the village and so-called rural entrants. Although varying, the field walks were attended almost exclusively by adults, with a slight emphasis on retired people.

In retrospect, some words can be said about field walks as a research method. Personally, I feel that it is a strong method, as it draws on both oral communication and communication through action. Through being in the landscape, discussions can become contextualized. This facilitates the participation of more people and, through that, the reception of a richer picture. A negative characteristic is that, by moving through the landscape, a group tends to become scattered. People easily form smaller groups and start a separate discussion somewhat away from the group. To follow the main line of the discussion, the researcher has taken notes and these were worked out directly after the field walks.

STUDY CIRCLE. In the village of Äspinge, five study circle meetings were held between October and December 2000. The meetings took place on weekday evenings and lasted two and a half hours each. All village inhabitants were invited through leaflets distributed from door to door, and representatives from local development groups from neighbouring villages were invited through a letter (see Table 1). Between six and fourteen people joined the meetings which were held in a house above the former village shop. Participants were predominantly members of the local development group of Äspinge and representatives from neighbouring villages. The average age of the participants was lower than in Eljaröd, with between four and nine participants in working age. Compared with Eljaröd, the division between male and female participants was less variable, with only one to five men attending each evening.

Methodologically, the study circle has had a structure similar to that of the workshops in Eljaröd. Plenary sessions alternated with work in subgroups, and more general discussions alternated with discussions on specific questions, and visual exercises. For a more exact overview of the methods employed, the reader is advised to consult Tables 2 and 3. As was done in the workshops, notes were taken by the researcher also in the study circle and these complemented the notes of the discussion made on flipcharts and the data from specific exercises. After the meetings, these notes were worked out and reflected upon in a research diary.

Through advertising the study circle as a whole, instead of as separate meetings, there has been a core group of participants in addition to which there were some participants who came for one or a few meetings only. This induced the reinforcement of social capital and trust between the participants and facilitator – a critical tool when working with participatory methods. The continuity in participants also allowed the study circle meetings to build on each other. Consequently, the themes of the separate meetings as such were not as important as in the workshops in Eljaröd. Moreover, these were also more coherent: liveability, potentials and limitations of local development in Äspinge, internal and external resources (respectively) that could be drawn upon in local development, and a development strategy for Äspinge. For the researcher, this continuity in participants and themes has meant greater coherence and depth instead of the more fragmentary picture that was developed in the workshops in Eljaröd. The study circle has therefore been more useful than the workshops for receiving a coherent perspective.

Questionnaire survey

In order to explore and describe people's relationship to natural resources, a questionnaire survey was conducted at Linderödsåsen. As such, the questionnaire is an example of a totally researcher-determined and quantitative method.

After studying other work on the use of non-timber forest products in northern Europe, and the context of the utilisation of these resources at Linderödsåsen, the researcher outlined a questionnaire in order to investigate edible mushroom-collection in this region. The questionnaire consisted of 32 questions with closed answers. Based on the interview study, the workshops in Eljaröd and field walks in Äspinge, and the work on wild berry utilisation in Finland by Kangas (2001), four major stakeholder groups were identified: farmers and foresters, people living in the area but not working in the primary sector, summerhouse owners and tourists and other visitors.

So as to cover all stakeholder groups in the survey, the questionnaire was carried out in two ways parallel in time. It was mailed to 100 randomly selected (Nichols 1991) households in the region with a reminder after four weeks. The response rate to this part of the survey was 64% (i.e. 64 respondents). In addition, in order to get data on forest users who are not resident in the region, the researcher asked forest visitors to fill in the questionnaire. This was done in different forests, on both weekdays and in weekends, in the period between July and September 2000. This part of the study also generated information through informal conversations after the respondents had filled in the survey. This has been a great advantage in interpreting the results of the survey. In the forests, 52 people have responded to the survey. With a few exceptions, this number corresponds to all people approached. Altogether, 116 people responded to the questionnaire. In the presentation of the results the data from both parts of the survey have been accumulated, as ultimately an overview of the mushroom picking habits of all forest users was considered to be most interesting.

As a method, the questionnaire differed considerably from the interview study and participatory rural appraisal. Whereas the last two mentioned are examples of qualitative research methods, the questionnaire is an example of a quantitative research method. Moreover, in the interviews and especially in the PRA, the respondents and participants were able to influence the direction of the research process. The questionnaire survey was, however, a fully researcher-determined methodology in which the respondents contributed only through administrating the answers themselves (Fowler 1984). I found it difficult to interpret the descriptive results, as the richness of the qualitative information as derived in the interviews and PRA was missing. Afterwards, I have understood that interviews or field walks would have been an excellent way to complement the questionnaire data.

Epistemological and ontological considerations concerning the methods

From the discussion of the different methods it might have become clear that the interview study, PRA and questionnaire survey are grounded in different epistemological and ontological perspectives. The research methods can, as it were, be placed on a line: PRA – interview study – questionnaire survey. The epistemological and ontological assumptions of PRA are in line with those of social constructionism whereas

those of the questionnaire survey tend to have more positivist characteristics. The interview study takes an intermediate position.

An ontology refers to claims about the nature of reality. Inherent in PRA and interview studies is the assumption that reality is socially constructed (Kvale 1996). As a result, multiple perspectives have been considered. The questionnaire survey, on the other hand, only allowed for one reality to come forward. Although consciously approaching different groups of stakeholders, the number of respondents did not allow for differentiation between responses of the different groups in the analysis of the data.

An epistemology addresses claims to knowledge framed by the relationship between the researcher and the researched. Above, I have argued that the questionnaire survey has been a totally researcher-determined study. In the PRA, however, I was, as the facilitator, also a member of the group of participants. In semi-structured interviews the objective of the researcher has been not to influence the interviewee, but through asking questions, reacting and by taking into account the line of thinking of the interviewees, I was, as a researcher, certainly part of the system investigated.

Depending on the degree in which the research method allowed the researcher to be part of the system investigated, trust was developed between the researcher and the participants. I assume that this trust has allowed me to receive qualitatively different information than in a situation when only little social interaction between the researcher and participants was established. By this I mean that anonymity might enable provision of more (sensitive) information, whereas trust, on the other hand, also might be a factor facilitating flows of information.

These epistemological considerations bring me to the broader question of the role of myself in the research project. That I, being Dutch, have been doing research in the cultural context of Sweden has had a number of implications. First of all, it has allowed me to look, as it were, with a different pair of spectacles than a Swedish person would have worn. Most basically, this has had impact on the cases I have chosen to study. The metaphor of open landscape, liveability and the activity of mushroom collection are part of Swedish culture and, as such, taken as given. For a Swede it would therefore have been more difficult to study these themes.

Secondly, being not Swedish implied language barriers (Russell Bernard 1994). Although I had studied the Swedish language thoroughly before starting my empirical work, it remains impossible for a foreigner to pick up all nuances in the use of language. Additionally, the specific connotations to words and the norms and values expressed in these have been aspects of which I have been conscious that they were hard to perceive fully and correctly. Consequently, this is the reason why I have focused on the main theme in the argumentation and the kind of issues taken up by the participants, rather than details and exact formulations.

A third implication of not being Swedish is related to the participants. Initially, I was worried about not becoming accepted as a member of the group during the participatory work. In practice, it turned out the opposite way. I felt fully accepted by The participants and, as I usually made it clear that I came from the Netherlands, people normally were interested in issues related to land use and liveability in The

Netherlands. I sometimes even felt accepted by the participants for being an 'interesting person' because of my Dutch background.

2.3 General research process

This section started with a treatment of interdisciplinarity and was followed by a discussion of the research methods. Here these will be integrated in a presentation of the more general research process. This research process can be described as a hermeneutic spiral (Alvesson & Sköldberg 2000, Ljung 2001). Every hermeneutic process is dynamic. It tries to develop an understanding both of the different data gathered, as well as the whole context. In an ongoing learning process, as the understanding of the phenomenon increases, what is learned becomes part of a new, constantly evolving pre-understanding. A new round of interpretation is then possible, enriched by the preceding results (Alvesson & Sköldberg 2000). The hermeneutic spiral can be seen as a valuable metaphor for the ongoing research and learning process. As a matter of fact, there are interesting points of similarity between the learning cycle proposed by Kolb (Wolfe & Kolb 1984) and further developed by King (2000), and the process described by the hermeneutic spiral. Roughly speaking, both approaches assume alternation between pre-understanding and understanding in an iterative process.

Kolb reasons that the learning cycle begins with the learner having a concrete experience. The learner then reflects on this experience and engages in abstract conceptualisation by creating generalisations that integrate these reflections into theories. In the next step, these generalisations and hypotheses are tested in more complex situations – and hence form the pre-understanding of the next learning cycle in a hermeneutic spiral. This active experimentation, then, leads to new concrete experiences and the learner will go through another cycle of reflective observation, abstract conceptualisation, active experimentation and concrete experiences. In this approach, learning increases with complexity through the process (King 2000).

In all – and in line with the hermeneutic spiral and Kolb learning cycle – the dissertation draws upon variant types of knowledge and experience, that gradually evolved to the state of understanding that is presented in this dissertation. Each new phase in this process builds upon the pre-understanding derived in the previous phase. In line with the time-limitedness of theory, this dissertation should be seen as a momentary product, representing the researcher's thinking at one moment in time, more specifically January 2003. Before, during and after all empirical studies, research diaries were kept in which more or less defined questions and problems were explored. An iterative process of preparation, actual findings and interpretations of field work activities was conducted. Finally, in the stage of writing the dissertation, a research diary was kept in order to achieve the integration of the empirical material. Important ideas from discussions in media, seminars, conferences, excursions and discussions with key informants (both scientists and other actors), as well as literature study, were linked and developed gradually into the matter presented in this dissertation.

As every person goes through the learning cycle individually, research will always have a unique character. Characteristic for my research process have been aspects already mentioned before. The first is that my scientific pre-understanding with which I started my PhD project consisted primarily of my natural science background. The process towards an emphasis on social sciences has been gradual, constituted through going through iterative learning cycles. The second aspect that has characterised my research process has been my non-Swedish background. This allowed me to reflect on experiences from another cultural perspective and thus to 'see' different things than a Swede would do.

Finally, some words need to be said on the choice of the literature read during the research process and cited in this dissertation. Inherent in the interdisciplinary research approach is that a number of disciplines are drawn upon, implying the need to explore key literature in all relevant disciplines. In a way similar to that described by Ljung (2001), I have read the literature that seemed to contribute to my understanding at just that specific moment in time. As I developed my own understanding, new literature needed to be read. In addition to part of the key literature, I have, like Ljung (2001), emphasised those authors who have inspired me most. The reader will discover that the authors referred to are not necessarily those who are part of the widely acknowledged community of key authors in their fields. I have attempted to place much of this literature in the scientific and societal context relevant to my theme, and hence to interpret its validity in the context of my research.

3 Case study area

The objective of this PhD study is to explore ways in which the socio-economic system potentially might create conditions so that it affects both the non-human environment and itself positively. More specifically, I am interested in ways in which society might create possibilities for influencing both land use and liveability positively. To be able to explore this problem, I have decided to concretise my study and focus on a specific region: Linderödsåsen.

That Sweden measures 1572 kilometres from north to south and (in 2001) had a population of 8.9 million inhabitants gives a good understanding of the low average number of inhabitants per square kilometre. Moreover, the population is unevenly distributed. About 1.8 million people live in the agglomeration of Stockholm and more than 0.8 million in the agglomeration of Göteborg. Skåne, the southernmost province, has about 1.1 million inhabitants.

To point at this irregular pattern in population density, Sweden distinguishes two types of rural areas: countryside (in Swedish: *landsbygd*) and sparsely-populated areas (in Swedish: *glesbygd*). Whereas the first applies to much of the rather populated areas around the cities of southern and middle Sweden, the latter covers large, forested areas in the rest of the country.

Skåne, the province in which the empirical work has been executed, is relatively densely populated. Yet, even within Skåne, there are big differences in population density. The industrial cities of Malmö and Helsingborg and the university town of Lund are situated on the west coast. Kristianstad and Hässleholm are provincial

FIGURE 1. Location of Linderödsåsen within Skåne.

towns in the east and centre. The agricultural plains in the south and west of Skåne could be considered countryside, whereas the forested regions in the north could be addressed as sparsely populated areas.

In addition to the general processes of agricultural intensification causing – among others – the afforestation of less productive fields and a decrease of liveability in the countryside, Skåne, in comparison with the rest of Sweden, does have at least one unique characteristic. In 2000, Öresundsbron, the bridge connecting Malmö and Copenhagen (Denmark) was opened. This has created special circumstances as it embodies, both physically and mentally, a bridge to continental Europe. For Skåne this has implied a (moderate) economic impulse, the immigration of Danes to the Malmö-region and the purchase of summerhouses not only by Swedes, but also by Danes and Germans.

The province of Skåne has large agricultural plains in the south and the west, whereas forests dominate the less fertile soils in the north and east. In the centre, there is a region with mixed land use. It is in this central region that Linderödsåsen is situated (see Figure 1). In one of its brochures, Linderödsåsen Turism (the tourist authority of Linderödsåsen) describes this region in the following, rather idyllic, way:

> Linderödsåsen, one of the characteristic hill ridges, stretches in a southeast-northwest direction from the heart of Skåne to Hanöbukten. The forested slopes stand out from the plains. The region is characterised by an old-fashioned cultural landscape of high natural and cultural value. Here you find also well-preserved estates situated in their characteristic environment on the border of the plains and the forests. The many hill ridges and brooks sometimes create exiting, deep ravines. Within the region there are no less than twelve nature reserves and one national park, Stenshuvud (Swedish original, author's translation).

The boundaries of Linderödsåsen are biophysically and culturally defined, rather than institutionally. Essentially, the name Linderödsåsen points at a hill ridge and the presence of the tree species lime (Tilia sp.). Yet, the boundaries are also culturally defined, actors interpret the boundaries differently. Institutionally, the region is, at present, divided between four municipalities, none of which has territory solely at Linderödsåsen. Many of the villages in this region were municipalities until 1952. In that year, and in 1974 (Herlitz 2000), these municipalities were merged stepwise. Accordingly, the level at which decisions about local concerns are taken has moved from the village level to the centres of municipalities which are situated outside Linderödsåsen (paper II).

The PRA was conducted in Eljaröd and Äspinge[2]. Figure 2 represents the changes in the population in the municipalities of Tomelilla and Hörby in which the localities of Eljaröd and Äspinge are situated, respectively. The village of Äspinge is situated on the western edge of Linderödsåsen, 5 kilometres from the municipal centre Hörby, 40 and 55 kilometres, respectively, from the university town of Lund and the industrial town of Malmö, and 40 kilometres from Kristianstad (distances measured as the crow flies). Because of these characteristics, Äspinge is thought of as *landsbygd*, countryside.

In the 1950's, the landscape of Äspinge was open and consisted primarily of grazing areas. The ten or so farms in the village were complex systems, all including some dairy production. The milk was either processed in the dairy at Hörby or used on-farm. The cattle were kept on the fields that were close to the farm house so as to facilitate feeding. In addition to milk, potatoes were grown for sale, vegetables for home consumption and rye, oats and barley as animal feed. The spruce planted on the fields furthest away from the farms were still not fully grown in the 1950's. The small extent of forest in Äspinge consisted primarily of coppice used for firewood and handicrafts.

Based on the land use structure in the village, Äspinge enjoyed a diversified local economy in the 1950's. A mobile butcher slaughtered animals on-farm, there were two blacksmiths and two sawmills. Potatoes were processed into brandy in the local

[2]In the presentation of these two villages, I have drawn upon the information the participants and informants have provided. In this it has been striking that the interpretation of the territory of the locality differs in different contexts and that people's recollections of the same phenomenon vary. For the following presentation this means that the numbers do not always correspond to each other. I therefore propose that these are regarded as indicating trends.

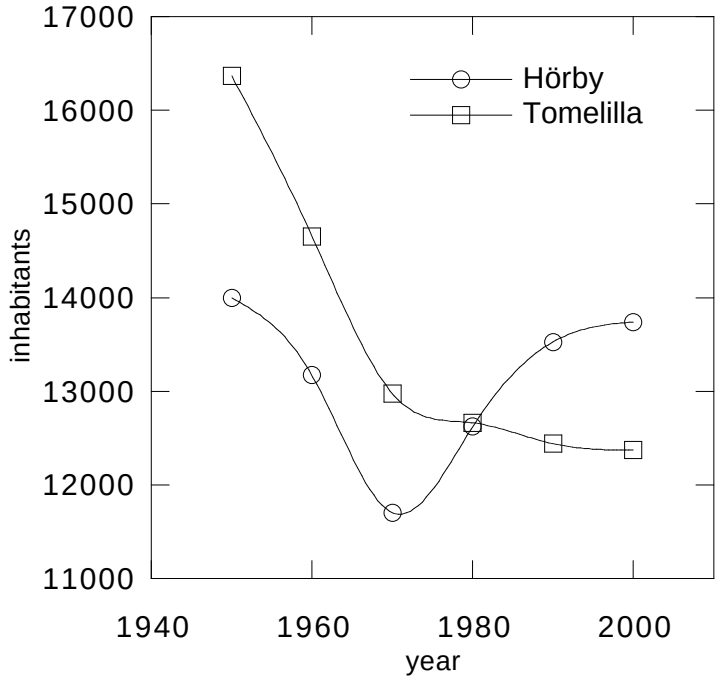

FIGURE 2. Population changes in Hörby and Tomelilla.

distillery and the waste products from this factory were returned to the farms as nutritious feed for the cattle. There were also services less directly related to the agricultural sector. Äspinge's school existed, for example, until the 1970's. There were also two shops, a bus line, and a railroad connection that carried people, goods and post. Some services that were not present in the village itself were available as mobile services, as was the case for fish and soft drinks.

At the beginning of the 21st century, the whole parish of Äspinge (of which Äspinge is one out of five villages), had 10 to 15 full time farmers, as well as some part-time and hobby-farmers. The main agricultural production consists of dairy and meat – generated by cattle primarily – and the production of feed and fodder. At present, forest owners primarily own small traditional forest lots that once belonged to farms. These forests are managed in a commercial way and spruce is the dominant species. Except for one sawmill, the services and economy left in Äspinge are unrelated to the land use sector: a church, a horse-riding school, a transport enterprise and some hobby craftsmen.

The story of the village of Eljaröd is slightly different from that of Äspinge. Eljaröd, at present part of the municipality of Tomelilla, lies 20 kilometres from this municipal centre. Although situated in the eastern part of Linderödsåsen, transport

to the main cities of Malmö and Lund is cumbersome as there is no direct road connection. Consequently, Eljaröd is considered to be *glesbygd*, a sparsely populated area. A direct road links Eljaröd to Kristianstad, about 40 kilometres away, whereas Lund and Malmö are 55 and 70 kilometres, respectively, away (distances measured as the crow flies).

In 1960, Eljaröd had approximately 30 full-time farmers. The agricultural sector accounted for half of the village's enterprises, which produced meat and milk, and to a minor extent also eggs, feed, potatoes, grain and beets. Much of the land was owned by the estate of Kristinehov, which was by far the largest forest owner. Enterprises related to land use were a sawmill, a carpenter and a blacksmith. Also other services flourished: the post office, four shops, a taxi and a transport enterprise, as well as a telephone station.

By the year 2000, the number of farms had halved in Eljaröd. Only five of the remaining farms were full time. The agricultural sector had become less diversified, only meat, milk, grain and animal feed were produced. Also the number of services and other parts of the local economy had diminished: one shop, day care for children and some small-scale enterprises were left. Whereas in the 1960's almost all people worked in the village, in 2000 one out of ten did so.

In addition to the general trend toward the decline and gradual disappearance of agriculture and associated parts of the economic sector, Äspinge and Eljaröd share a counter trend: the emergence of summerhouses. In Äspinge the first summer dwellings appeared in the 1960's and became a normal part of the landscape in the 1970's and 1980's. At present there are at least 50 such summer cottages, the majority concentrated in a special summerhouse area. In Eljaröd there were three summerhouses in the 1960's; the number had grown to more than 25 at the time the field work was executed.

4 Liveability: local inhabitants, community life, service level, local economy and physical place

In the previous sections, the research problem and research questions, the methodology and the study area have been presented. In this section, as well as in the next two, answers to the research questions will be formulated. The question at stake in this section is:

> How do village inhabitants at Linderödsåsen perceive liveability? What variables constitute liveability and how do these variables interact according to the perceptions of inhabitants of Linderödsåsen?

In the introduction of this dissertation I have argued that changes in the agricultural sector have induced socio-economic changes in rural areas. Taking this coevolutionary process between the human and non-human environment as point of departure, I regard it to be one of the objectives of this dissertation to explore whether the socio-economic system potentially could do the reverse through creating conditions so that it affects both land use and liveability positively. In order to formulate an answer

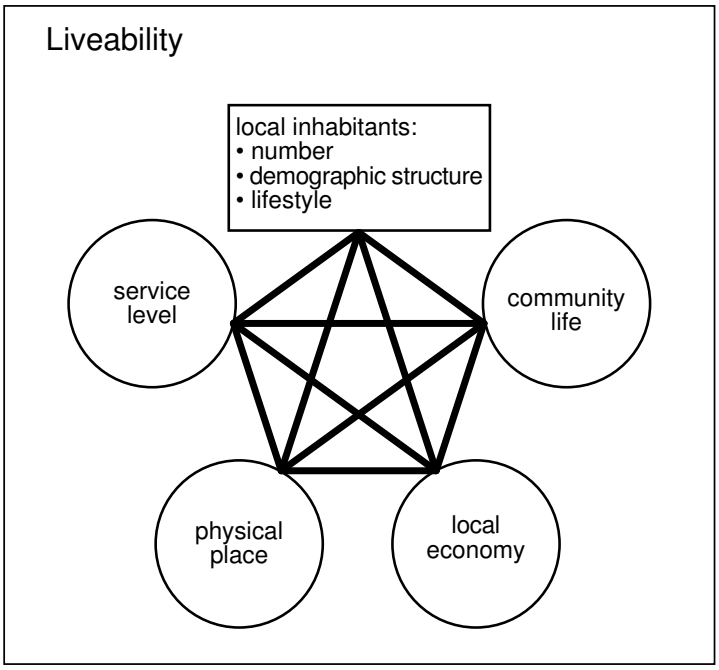

FIGURE 3. Framework of liveability indicating the relationships between the number, demographic structure and lifestyle of the local inhabitants, community life, service level, local economy and physical place.

to the research question, the empirical findings presented in paper II are discussed in relation to the subject matter of the other papers, a wider body of literature and the wider context in which the discussion of liveability takes place. This section concludes with a short summary of the answer to research question 1.

4.1 Perception of liveability

In paper II, I have presented what I call the framework of liveability, a relational diagram that summarises how the participants of the study circle in Äspinge understand the Swedish notion *den levande landsbygden*. The framework is presented in Figure 3. In short, liveability is understood to be made up by (the interactions between) five variables: local inhabitants, community life, service level, local economy and physical place.

With regard to the local inhabitants, their number, demographic (age and sex) structure and lifestyle are of importance. Community life refers to the social interaction among the village inhabitants and facilitates both community spirit and mutual help. Services, such as communications, a school, a home for elderly and a shop, are important for the practical act of living in rural villages. The heading local economy incorporates the necessity of local sources of income and employment. A small-scale economic structure is envisioned in which there is space for both formal

and informal economic activity. The term physical place denotes the landscape and the buildings in this landscape. For a more specific description of the variables, the reader is advised to consult paper II.

The discussion of liveability in paper II continues with the argument that the framework could be considered a heuristic model. Depending on their interests, different communities and actors within these communities emphasise different aspects or interrelationships of the framework. The framework is heuristic because it helps to place such potential perspectives in a wider context, and, through that, the consequences of specific measures can be made visible. Herlitz ((1998, 2000), Berglund (1998) and Stenbacka (2001) all address issues of local development in Sweden. As these examples fit well in the framework of liveability, I expect this framework to be generalisable for the Swedish context in general.

The concepts coevolution (papers I, III, and IV), recursive relationships (paper IV) and feedback (papers I, III, and IV) might help to understand better the interactions between the variables that constitute liveability. The variables of the framework are related recursively, that is, two variables are related through mutual feedback. The five variables coevolve, as relationships between them are recursive; a change in one of the variables necessarily influences other variables. For example, a decrease of the number of inhabitants will influence community life, the service level and the local economy.

In Äspinge, the participants emphasised one specific relationship, namely the one between community life and local economy. I introduced the terms intrinsic and instrumental value of community to explain this relationship (paper II). Being two sides of the same coin, these two values of community address sense-of-community and social capital, respectively. Whereas the local development group in Äspinge tends to emphasise social activities that reinforce the participants' sense-of-community, such activities inherently contribute to the stock of social capital among these actors. In Eljaröd, the combination of social activities, services and local economic activity reinforces the local stock of social capital and, through that, these activities themselves. It is through the trust and reciprocity enhanced in social capital that local economic activities are stimulated. Through emphasising the intrinsic and instrumental value of community as two sides of the same coin, the often-assumed dichotomy between these two values of community seems to be transcended. Nonetheless, I did not explicitly mention this in paper II.

In paper II, I have assumed that the pursuit of liveability could be seen as the primary objective of local development. That is, I assume the actors and local development groups at Linderödsåsen to strive for an optimal balance between the variables that constitute liveability. From the above discussion of the framework as a heuristic model, it follows that what exactly this balance enhances is dependent on the (human, spatial and temporal) context. Local development thus implies the pursuit of certain changes in (the relationships between) the variables in order to pursue a higher degree of liveability. In other words, I consider local development to enhance the conscious steering of (the recursive relationships between) the five variables by (actors in) local communities at Linderödsåsen.

4.2 Discussion

Community life and local economy

Besides the framework of liveability itself, I consider the major contribution of paper II to lie in the discussion of the linkages between the intrinsic and instrumental value of community. In terms of the variables that constitute liveability, it concerns the linkages between community life and local economy as described above. In this section, some further considerations regarding these concepts and their interrelationships will be posited (paper II).

Three notes need to be made with respect to the intrinsic value of community, namely with respect to the distinction between community-of-place and community-of-interest, the lack of coherence of local communities and the role of power. An important discussion on the notion of community in literature is based on the interface between community-of-place and community-of-interest. The point is that these two kinds of communities do not necessarily cover each other. They are connected by different kinds of interests. Communities-of-place are interlinked by place-based issues and display a wide range of interests by definition, communities-of-interest are interconnected by specific interests.

The field work in Eljaröd and Äspinge revealed that the respective communities-of-place consist of clusters of households or families who interact more with each other than with others. In these villages, I found this to be particularly true for people who were born in the village. The formation of such clusters often has historical roots, such as local conflicts. Communities are, thus, by no means homogenous groups (cf. Kneafsey 2000, Berglund 1998).

Among other things caused by the subdivision of the local inhabitants in clusters of families, social groups and individuals face differences in the accessibility of community life, local services and local economy. That is, people do not have similar access to different communities-of-place and communities-of-interest. Massey (1993) captures this understanding in the concept of power geometry.

The instrumental value of community – or social capital – needs to be submitted to some further considerations too. Reciprocity, trust, networks and common rules, norms and sanctions are considered as the basic constituents of social capital (Pretty & Ward 2001). A stock of social capital can only exist, and be used, by those people who are contributing to it. If not used and reinforced, the stock will diminish (Svendsen & Svendsen 2000, Putnam 1993).

This context-dependent nature of social capital can also be understood in another way. Twigger-Ross & Uzzell (1996) discuss distinctiveness, continuity, self-esteem and self-efficacy as the basic principles of identity. These principles of identity determine the boundaries of the social environment within which individuals feel confident to act. By way of the fourth principle, self-efficacy, identity seems to be related to agency. It determines the space within which actors know how to interact with other actors in order to reach their objectives (papers II and III).

In paper II, I have explained how my informants linked their network of local contacts with extra-local networks in their attempt to stimulate development locally. In other words, my informants in Eljaröd and Äspinge linked community-of-place with

community-of-interest. Burt (1998) has captured this understanding in his structural hole theory in which he explains the role of brokers in relationships between people who otherwise would be disconnected in social structures.

So far, social capital has been treated as having a positive value. It has been argued that communities-of-place by no means are homogeneous groups and that actors face differences in access to different communities-of-place and communities-of-interest. It might therefore be expected that the participants in the field work do not represent the interests of the community as a whole. Rather, they represent the interests of their own cluster of actors in the community. In Eljaröd, I learned that through being active themselves, other clusters of actors felt less welcome to participate in, and contribute to, (discussions about) local development. Such social exclusion is one of the side-effects of social capital (Portes & Landolt 1996) and it thus needs to be considered in the context of local development (Shucksmith 2000).

With respect to the relationships between community life and local economy two notes should be made. The first regards the part of the economy that is reinforced through social interaction, the second concerns the potential directions in which the local economy develops. In paper II, it is distinguished between the formal and informal economy. For people's livelihood both are valuable. Yet, it has also been argued in this paper that people who are territorially integrated (Friedmann & Weaver 1979) are more dependent on the local informal economy than people who are functionally integrated (Friedmann & Weaver 1979). Secondly, norms and values held by local inhabitants influence decisions about which economic activity is acceptable and which is not. Hence, local economies might not develop freely. Demands for conformity might restrict individual freedom and business initiative (Portes & Landolt 1996).

Liveability in a wider political, economic and social context

It has been explained that the framework of liveability is a product of the study circle in Äspinge. Although the framework can be perceived as a heuristic model in which different actors might focus on different aspects, policies regarding local development do not necessarily reflect this lifeworld understanding of liveability.

There are a number of aspects that hinder the pursuit of liveability. First of all, the production objective of the CAP, together with the criterion of comparative advantage that reigns the global economy may cause the closing down of small farms. These small farms, however, are an important aspect constituting an attractive landscape. Additionally, they form part of the local economy. Indirectly, this causes changes in the number, demographic structure and the lifestyle of the local inhabitants, and through that, community life and the service level. Another aspect that hinders an economic impulse in rural areas are EU-regulations. Äspinge, for example, has had a tradition of small-scale slaughtering. It was mentioned in the study circle that taking up this craft would form an impulse to the local economy. Yet, EU-regulations regarding veterinary control in the case of slaughtering inhibit such an initiative.

In section 1, I have pointed at the fact that the European Union has acknowledged the negative impact of the CAP on the non-human environment and on liveability in

rural areas. As a result, the CAP has come to include a number of countermeasures. Despite studies that criticise these measures (Shucksmith 2000), it might be expected that the support for cultural heritage, biodiversity and local development stimulates liveability in general.

The lack of control over decision making regarding local concerns – the lowest official level of governance is the municipality – enables general processes of centralisation and rationalisation. This hinders the maintenance and development of the service level and local economy. A school might need to close down because it has too few school children and a small shop might be competed out by large stores in the urban fringe. Liveability might thus be influenced negatively by the scaling up of the level of decision making, a process that in Sweden has taken place during the latter half of the 20th century (Herlitz 2000) (paper II).

The pursuit of liveability is also hindered by the general process of de- and repopulation of rural areas. In a situation where permanent inhabited houses become summer dwellings, the locality suffers a loss of people living in the village permanently. This influences community life negatively. The gradual shift away from an emphasis on territorial integration caused the absence of people in daytime. This, in turn, hinders the ability of people to meet intentionally and unintentionally and thus has a negative influence on people's sense-of-community as well as on the development, and reinforcement, of the local stock of social capital.

4.3 Conclusion

In this section it has been attempted to formulate an answer to the question how community inhabitants at Linderödsåsen perceive liveability. Light has been shed on the variables that constitute liveability and how, according to the perceptions of the participants in the field work, these variables interact with each other.

The interpretation of liveability by the participants in Äspinge has been captured by a framework. Although different (groups of) actors focus on different aspects, it is the number, demographic structure and lifestyle of the local inhabitants, community life, service level, local economy and physical place – and the interactions between these variables – that constitute liveability.

In Äspinge and Eljaröd, the relations between community life and local economy were considered particularly important for liveability. Community life embodies both an intrinsic and instrumental value. It is the instrumental value, the reinforcement of the local stock of social capital, that ultimately facilitates and reinforces the local economy. Yet, not everybody has equal access to community life and, consequently, people face differences in opportunity to influence and profit from local development processes.

These local development processes are also influenced by processes beyond the control of localities. Paradoxically, the CAP both hinders and facilitates the pursuit of liveability. Local development groups, however, face a lack of control over decision making processes concerning local affairs. Moreover, they have to deal with the consequences of changing lifestyles due to the de- and repopulation of the localities.

5 The role of the non-human environment in liveability

In the previous section, the framework of liveability has been presented. As the objective of this dissertation is to explore ways in which the socio-economic system might create conditions that affect both itself and the non-human environment positively, it has now become time to explore the role of the variable physical place in relation to the other variables of the framework. In this section, the second research question will be dealt with:

> How do inhabitants of, and visitors to, Linderödsåsen understand the role of the non-human environment in the pursuit of liveability at Linderödsåsen?

With this research question, I go beyond my initial assumption that agriculture is important for local development (in an economic sense). I recognise this assumption as being researcher-determined – and it seems to be assumed by many other researchers too (van der Ploeg 2000, Marsden 2000) – but not necessarily reflecting the perspectives of the inhabitants of Linderödsåsen.

In an attempt to answer the research question, two studies were carried out. Through the metaphor open landscape, the participants of the field walks in Äspinge have expressed their way of relating to the landscape (paper III) and have interpreted edible mushroom collection to be an activity that induces affinity with the environment (paper IV). After their presentation, these two studies will be discussed in relation to a wider body of literature and the contribution of the non-human environment to liveability is placed in a wider political, economic and social context. This section will be concluded with a short summary of the answer to the second research question.

5.1 Two empirical studies

The metaphor open landscape

The participants in the field walks repeatedly used the term *öppet landskap*, which translated into English means open landscape. This metaphor embodies a general appreciation of a cultural landscape that is small-scale and patchy. This landscape is experienced with all senses. The meanings perceived by the participants are derived from the comparison of two instances, namely the historical small-scale landscape and the current forested landscape. Coniferous forests are literally and metaphorically perceived as dark. They represent the closing down of farms and the depopulation of rural areas as a consequence of that. The small-scale landscapes of the past, on the other hand, connote the presence of an active agricultural sector and liveability. It is these connotations that the researcher interprets as the meanings the participants perceive open landscapes to have (paper III).

Nonetheless, the metaphor open landscape embodies conflicting interests. In paper II these are summarised. The preference for small-scale farming may conflict with the objective of farm survival, and thus the actual economy-oriented practices, of many farmers. It might be expected that only those farmers who have secured their income from other sources (e.g. off-farm employment) experience the space

to choose relatively freely the type of farm management they want. Nonetheless, an open landscape may at the same time enable the local tourism sector to flourish. Moreover, for some newcomers an open landscape may be the major reason why they have chosen to live in the village. It might thus be expected that the metaphor open landscape primarily captures the interests of the non-farming population.

Collection of edible mushrooms

In paper IV, the collection of edible mushrooms is discussed as one example of natural resource management. Because of *allemansrätten* (in English: every man's right), there are no restrictions to the appropriation of these natural resources in Sweden. In the analysis of the questionnaire survey no distinction is made between different groups of stakeholders. A search is made for the contribution of this activity to human wellbeing and the intentions of the collectors for this activity. The questionnaire learns that the edible mushrooms generated by forests are valued for their experiential value. The major intentions of the harvesters are, according to the respondents, nature experience, the feeling of collecting one's own food and recreation. In paper IV, I have argued that the first two aspects induce an intimate bond – or affinity – with the non-human environment.

Comparison of the two studies

Before discussing and comparing the two studies content-wise, it is important to say some words about the context and methodology from which the findings are derived. The findings regarding the metaphor of open landscape are based on the field walks. These field walks have largely been influenced by the participants. The questionnaire survey, investigating edible mushroom collection, on the other hand, was fully determined by the researcher.

None of the studies focused explicitly on the role of the non-human environment in the pursuit of liveability. The field walks intended to study the metaphor open landscape as such, the questionnaire survey investigated the contribution of edible mushroom collection to human wellbeing. I regard wellbeing to differ from liveability as it does not explicitly refer to community level and is associated with basic human needs rather than the act of living in rural areas.

The two studies differ regarding other aspects too. Whereas the metaphor open landscape addresses the level of the landscape, which is perceived as a whole by the participants (paper III), the collection of edible mushrooms addresses separate elements of this environment, namely natural resources. Related to this is a second distinction: the landscape is experienced, whereas the natural resources are appropriated. And yet, this appropriation itself is again experienced.

But the two studies also differ with respect to two other aspects. The experience of the landscape can be shared with others, e.g. in the field walks. Mushroom collection, on the other hand, is an activity shrouded in a sense of secrecy. The fact that one collects mushrooms can be shared with others, but the place where one appropriates these resources is often kept secret in order to be able to collect the mushrooms oneself. Whereas the experience of open landscapes does not exclude others from doing the same, the collection of mushrooms does so. That is why the exact places

where one collects mushrooms are kept secret. Finally, for the local inhabitants, the landscape contains information about social relationships. The landscape thus includes a human component. In a situation where it is experienced by non-locals, and in the case of edible mushroom collection, the landscape and natural resources primarily include aspects of a non-human environment.

The role of the non-human environment in liveability

The discussion in this section draws upon papers III and IV, but as these papers do not explicitly discuss the contribution of the non-human environment to liveability, the present section goes beyond the content of these papers. The second research question refers to the contribution of the non-human environment to liveability. For that reason, I will systematically discuss the contribution of the physical place to the other variables of the framework of liveability. As the reader will notice, the relations between these are principally visible through the metaphor open landscape.

As argued in paper III (and in paper II) an attractive landscape might be one of the reasons for people to remain living in, or to move to, a certain locality. As regards rural entrants, this implies that these people either live in the locality permanently or do so during the summer. For mushroom collection, I perceive the linkage with the variable local inhabitants to be less explicit.

How does physical place relate to community? In the previous section it has been discussed that, for local inhabitants, the landscape also contains information about social relationships. Further, whereas an open landscape can be experienced with others, the actual activity of mushroom collection is primarily an activity of the individual or household.

A linkage between physical place and service level can be found only indirectly. The physical place is influenced by the local agricultural sector and this influences the attractiveness of the locality for owners of summer dwellings. Depending on the balance between permanent and summer residents, the impact on the service level might vary. Generally speaking, the larger the number of permanent inhabitants, the better the possibilities for services in the locality.

Potentially, an open landscape and edible mushrooms might affect the local economy. The positive effect of an open landscape on the tourism industry is clear: open landscapes are considered attractive. Yet, there is no evidence in the field work that agriculture as an economic activity today is an important contributor to the local economy. On the other hand, its potential contribution has been recognised by the participants in Äspinge. Initially assumed by the researcher to be a commodity, edible mushrooms do not affect the formal local economy at Linderödsåsen as none of the respondents was interested in selling them commercially (paper IV). Mushrooms might, however, be an object of reciprocity and, through that, influence the informal local economy.

5.2 Discussion

Different senses-of-place

In paper III, I have presented the term sense-of-place in order better to understand the metaphor open landscape. According to Relph (1976), the identity of a place comprises three interrelated components: the physical setting, the activities that take place in that physical setting, and the meanings affixed to the previous two components. Sense-of-place includes these three aspects but can continue to exist even if these three components have changed. I interpret the metaphor open landscape to embody a sense-of-place. That is, despite profound changes in the physical appearance of the landscape, land use activity and the meanings affixed to this landscape and activity during the latter half of the 20th century, open landscapes have persisted as a metaphor.

In paper IV it was argued that edible mushrooms are collected primarily for their experiential value. Rather than covering aspects of amenity (Holmlund & Hammer 1999, Vail & Hultkrantz 2000), this experiential value refers to an intimate bond with the non-human environment. Kals, Schumacher & Montada (1999) call this emotional affinity with the non-human environment. These authors argue that this affinity becomes stronger, the more concrete and specific the contacts with this environment are. The difference between place identity and emotional affinity with the non-human environment seems to lie in that Relph's (1976) place includes the presence of people, whereas the non-human environment that Kals et al. (1999) refer to, does not. On the other hand, both notions address an emotional relationship to the non-human environment.

The social constructionist perspective that informs this dissertation makes the researcher sensitive to different interpretations of reality. In both studies, different stakeholder groups have therefore been distinguished (though in the analysis of the survey only little attention has been paid to them). From this perspective it could be argued that we should be talking about different senses-of-place, so as to acknowledge that actors have their own interpretations of reality.

Senses-of-place not only refers to the different stakeholders, it also reflects differences in intensity of experiences with the environment. Relph's (1976) distinction of the different degrees of being inside and outside a place might help in the interpretation of the two case studies. From the outermost circle inwards, he distinguishes seven zones: existential, objective and incidental outsideness and vicarious, behavioural, empathetic and existential insideness. For the purpose of this dissertation, incidental outsideness and empathetic insideness need to be explained. Through incidental outsideness, places are merely backgrounds for other activities, applying only to those places in which we are visitors and towards which our intentions are limited and partial. Empathetic insideness involves emotional participation in, and involvement with, place. It requires a willingness to be open to significances of a place, to feel it, to know and respect its symbols. To be inside a place empathetically is to understand that place as rich in meaning, and hence to identify with it. These meanings are not only linked to experience and symbols of those whose place it is,

but also stem from one's own experiences. The distinction between inside and outside can thus be understood as a function of different levels of intensity with which we experience insideness and outsideness (Relph 1976).

I consider the degree of insideness reflected in the metaphor open landscape to be that of empathetic insideness. The metaphor expresses that the landscape is rich in meaning. Many Swedes still have roots in the countryside (Myrdal 2001), and their general understanding is based in their own (past) experiences. Yet, for those who remain living in the countryside, the significance is probably supplemented with additional details.

Describing the degree of insideness reflected in the case of edible mushroom collection is a more complex matter and requires distinguishing different categories of collectors. Tourists may perceive incidental outsideness towards the mushrooms in the forests at Linderödsåsen, as their intentions can be considered to be only limited and partial. Yet, almost all respondents to the questionnaire survey – including tourists – said that they sometimes or always return to the same place. In subsequent informal discussions with the respondents in the forests they often mentioned 'secret places'. These issues reflect empathetic insideness, as they involve emotional participation in, and involvement with, special parts of the forest.

Commodification of the non-human environment

The interpretation of the emperical studies would not be complete without paying attention to the commodification of the values affixed to the non-human environment. The opportunities to do so differ for the case studies. Edible mushrooms were not considered to have economic value in a direct sense - none of the respondents was interested in marketing their harvest commercially. Nonetheless, the activity of mushroom collection might attract tourists to Linderödsåsen in ways similar to those experienced for open landscapes. A shift has taken place from marketing physical products to marketing services. What increasingly is produced are not material objects, but signs (Lash & Urry 1994). At Linderödsåsen, tourism has redefined the non-human environment as a resource for leisure. In fact, such leisure has become one of the most important ways in which the relations between human and non-human environment are currently organised (Lash & Urry 1994).

In Eljaröd, tourism activities link the physical place to the local economy. As tourism involves the commodification of cultural and historical features and aspects of the non-human environment, it can be regarded that it is mediated through, and shaped by, existing aspects of place identity (Kneafsey 2000). In her study of the American maple syrup industry, Hinrichs (1995) concludes that regional and cultural identity become inextricably linked with, and expressed through, rural production practices. Maple syrup is a kind of niche-product. In Eljaröd, the importance of niche-products, based on the local natural resources (in the case of Eljaröd both agricultural land and broad-leaved forests), and sold to tourists, was repeatedly emphasised as an important economic potential through which money could be brought into the local economy. Kneafsey (2000) asserts that commodification of features

of the physical place is often powered from beyond the immediate locality. In Eljaröd it is, however, geared by both the shopkeeper and extra-local actors like the municipality and the tourist organisation of Linderödsåsen.

In contrast, in Äspinge the participants' visions did not reflect such commodification of local identity. Instead, their vision aimed much more at a local economy run by, and for, local inhabitants. Although crafts were mentioned in Äspinge, these were envisioned to be part of the daily life of the village inhabitants. When confronted with the idea of a local economy based on tourism, the participants in Äspinge argued that they did not want to become a tourist attraction. The discussion that followed shed light on the understanding that village inhabitants wanted to experience the landscape (their physical place) as a place where they live and make their living, and not as a scene for recreation enjoyed by tourists in the first instance.

The wider political, economic and social context

The treadmill effect (Cochrane 1958) induced by the global economy and the production objective of the CAP leads to the gradual disappearance of agriculture in the half-open landscape of Linderödsåsen. In the presentation of the villages Eljaröd and Äspinge, the small number of people engaged in agriculture has been mentioned. In order to receive future revenues, abandoned fields are afforested with fast-growing, coniferous species.

This shift in landuse has been reflected in EU-policies. The CAP no longer only includes support for agricultural production, but also enhances measures to counteract the negative consequences of these policies: cultural heritage, biodiversity, ecological agriculture and local development (Myrdal 2001). Such support might in turn enable the maintenance of open landscapes. My work in Eljaröd revealed that individual farmers may take initiatives with similar objectives. There, a young farmer did not want to close down his dairy farm as he wanted to maintain an open landscape. In order to secure this, he changed from dairy to meat production and is developing on-farm tourism activities instead.

In cases where these trends are linked to the framework of liveability it could be said that the relationship between the physical place and the local economy is changing. Whereas in the 1950's this relationship was constituted through the management of the non-human environment in order to produce physical products (food, feed, fodder, fibre), at present this relationship also, or even primarily, embodies the production of experiential value.

The shift away from an exclusive emphasis on the production value of agriculture to an inclusion of the experiential value, seems to be reinforced by the increasing importance of Linderödsåsen for recreation and tourism, as has become clear through the questionnaire survey. Such experiential values are emphasised by rural entrants. It could be said that rural areas have become inhabited by people who have consciously chosen, rather than inherited, a rural lifestyle

(Kaltoft 2001, Stenbacka 2001). Yet, such a rural lifestyle is different from an agricultural lifestyle as it focuses on experience rather than production. Economic dependence on agricultural activity is not at stake. In paper II, I have argued that although farmers are the actors who influence the physical appearance of the landscape most, they are often the ones who are least dependent on the physical appearance of the landscape. There is a growing gap between farmers and other inhabitants of, and visitors to, Linderödsåsen (Saltzman 2001, Myrdal 2001). Farmers find themselves increasingly hard pressed. Above all, the production objective of farmers no longer harmonises with the experience-objective expressed by other parts of society.

5.3 Conclusion

This section has dealt with the question how inhabitants of, and visitors to, Linderödsåsen understand the role of the non-human environment in the pursuit of liveability.

In short, the physical place has primarily impact on the variables local inhabitants and local economy. An attractive landscape turned out to be one of the reasons for people to remain living in, or to move to, a certain locality. Depending on the balance between permanent inhabitants and summer guests, and on whether permanent inhabitants are territorially or functionally integrated, the variables community life and service level are affected. The linkage between the physical place and the local economy is most obvious. Whereas in the past this linkage was built on agricultural production, the production and commodification of experiences have currently become important for the tourism sector in the broadest sense.

In the discussion it was argued that we should be talking about senses-of-place, as stakeholders experience the landscape not only differently in kind, but also the intensity of their experiences is likely to vary. Farmers find themselves increasingly pressed on account of their production objective no longer seeming to harmonise with the experience-objective expressed by other parts of society.

6 The challenge of ecological land use

6.1 Introduction

In the introduction to this dissertation I have explained how I consider that the changes in the agricultural sector during the last century have induced environmental problems. I have argued that the removal of habitats, increase of monocultures and afforestation of abandoned fields have caused a decrease in biodiversity and, through that, the productive and regulatory capacity of nature has diminished.

I perceive these changes in the past to be induced by the increase, and change in character, of the scale at which coevolution of the human and non-human environment takes place. I observe a shift from an emphasis on self-reliance and self-sufficiency on the local level to an emphasis of these on the global level. This process of the scaling up of the level at which self-reliance and self-sufficiency is pursued is understood by Giddens (1990) in terms of disembeddedness, which he considers to be caused by time and space distanciation.

The lifting out of social relationships from the local context and the restructuring of them across indefinite spans of time and space, implies at the same time the loss of local feedback loops. The interaction locally between the human and non-human environment diminishes. The result of the loss of these feedback mechanisms is that people no longer are able to receive direct information on the impact of their actions on – especially – the non-human environment (paper I).

Through the loss of feedback loops, induced by time–space distanciation, the redundancy of the global environment can be assumed to decrease. That is, the probability of failure in the global system increases as the number of parallel systems of local self-reliance and self-sufficiency decreases (paper I). The accumulated effect may be considered to be an increase of the vulnerability of the global system to environmental and socio-economic crises. Such crises may take place because the parallel systems at the local level lose their socio-ecological resilience (van der Leeuw (2000) cited by Milestad & Darnhofer (2003)), i.e. the capacity to lead a continued existence by incorporating structural change. The buffer capacity of these local systems can be assumed to decrease through the loss of local feedback loops.

I perceive the learning perspective to ecological land use that will be presented in this section to be one solution to the problems sketched above. In this, I do not consider land use to be equivalent to agriculture and forestry. Rather, I consider the term to address the spatial scale of the landscape. A landscape mosaic consists of components such as agriculture, forestry and aquaculture. Yet, these components themselves can be subdivided into, e.g. fields. A systems approach reveals that, in the interactions between subcomponents, properties emerge that cannot be predicted by the sum of the properties of these subcomponents. Hence, for me, land use consists of the different components of the landscape, as well as the properties that emerge as a result of the interactions between them.

The question this section will deal with is:

> How can the lifeworld perceptions of the role of the non-human environment in the pursuit of liveability be integrated in the scientific discussion of ecological land use?

This section draws on the material presented in section 5 and additional issues that are discussed in the papers. First, a synthesis of this material will be presented. After that, an approach to ecological land use, based on a learning paradigm similar to that of adaptive management and facilitated by a certain degree of localisation of resource use and decision making, is developed. The dynamics behind this approach and the complementarity and mutual reinforcement with liveability are discussed, as well as the wider political, economic and societal context in which ecological land use needs to be placed. This section is concluded with a short description of some of the challenges that society is facing, as well as a discussion of further research that is required to facilitate changes to a more ecologically sound land use.

6.2 A synthesis of the contributions made in the papers

The life-supporting environment

Implicit in section 5 has been the assumption that the non-human environment supports human existence in a physical and experiential mode. Here, I will extend this understanding, as I consider people to depend on the non-human environment in four ways: physically, economically, socially and psychologically. In paper IV, physical dependence is explained in terms of the products and services provided by the non-human environment and that are crucial for human existence. The economic value of the non-human environment for (certain groups of) actors and the amenity and the experiential value of this environment are captured in the terms economic and psychological dependence, respectively.

It is in the village-inhabitants' perception of place that an extension of this discussion of the life-supporting environment can be found. In the field walks it turned out that continuity in time was experienced – among others – through people who remained living on farms. The participants felt related to their environment, because they had knowledge about persons who inhabit the locality. I consider this to be one interpretation of social dependence on the non-human environment. Another interpretation of social dependence on the non-human environment can be found in the field walks as such: the non-human environment as constituting a background against which social activities take place.

Physical, economic, social and psychological dependence on the non-human environment have different characteristics. Whether or not people are conscious of it, all people are dependent for their existence on the regulatory and productive functions of the non-human environment. Whereas everybody is physically dependent on the non-human environment, not everybody feels economically, socially or psychologically dependent. Hence, physical dependence on the non-human environment can be considered a fact and economic, social and psychological dependence can be considered social constructions. Holmlund & Hammer (1999) address this distinction in terms of fundamental ecosystem services, being a prerequisite for human existence, and demand-derived ecosystem services, that are formed by human values and demands and that are not necessarily fundamental for the survival of human societies (paper IV). It could be argued that it is the global environment on which people are physically dependent, whereas they might also develop other forms of dependence on the landscape that surrounds them.

Attachment to place

An understanding is needed of the grounds on which people make decisions about their behaviour in the non-human environment. In paper IV, such behaviour is considered to be determined by human intentions, which in turn are influenced by people's factual knowledge about the effect of their behaviour, the social pressure they perceives to perform certain behaviour (Ajzen & Fishbein 1980), and the meanings they perceive the non-human environment to have (Kaiser et al. 1999). These intentions, however, stand in a mutual feedback relationship with the person's actual

behaviour in that environment. Moreover, I assume a person's intentions to mutually influence the person's factual knowledge, the meanings the person perceives the non-human environment to have, and the social norms and values that influence the person (paper III).

How can the role of place identity be understood in this understanding of factors that influence a person's behaviour in the non-human environment? The discussion of the metaphor open landscape in paper III (and also in paper II) reveals that attachment to place is a complex issue. Those people who feel most attached to a certain landscape are not necessarily the people influencing the appearance of the landscape. The example of the collection of edible mushrooms (paper IV) reveals a similar problem – the manager of the forest is not necessarily the collector. But it is dissimilar in that the behaviour of the collectors this time is of importance too. I assume this activity itself to induce an emotional affinity with the non-human environment (Kals et al. 1999). I expect that the experiential relationship with this environment that is captured in the metaphor open landscape, and in the collection of edible mushrooms, will have influence on the sense of responsibility the holders of those feelings experience towards that environment. I consider sense-of-place to influence the meanings people attach to the non-human environment and through that people's intentions and behaviour.

In paper IV it is argued that experiences with the non-human environment influence protective behaviour regarding this environment positively (Kals et al. 1999). According to Hukkinen (2001), individual recognition of environmental problems and concern for their management requires an intimate physical dependency on, and activity in, natural resource systems. The continuity of collection of edible mushrooms through repeatedly visiting a specific place facilitates intimate dependence on the non-human environment, and might thus facilitate people to perceive feedback from that environment and accumulate ecological knowledge.

On the other hand, people's emotional relationships with the non-human environment might not only facilitate but also hinder the more sustainable management of that environment. It might do so in at least two ways. Changes in management of the non-human environment might be counteracted by stakeholders on the basis of such emotional motives, and an affective bond with that environment may not be commensurable with, e.g. economic dependence. In paper III, I have discussed how the interests of farmers who are economically dependent on the non-human environment are not necessarily in line with the interests of the local tourism sector.

Social context

Yet, not only a deeper understanding of the role of the meanings people attach to the non-human environment has been received, the social context that influences people's intentions has to be touched upon too. In the local context a number of stakeholders have been distinguished: farmers and foresters, people living in the village permanently, owners of summer cottages, the tourism industry, the EU and other governmental agencies (papers II, III, IV). The interests of these stakeholders reflect different balances between the four ways of depending on the non-human

environment. In reality, land use is largely influenced by economic considerations (paper III).

In paper III, I distinguish between the different interests of stakeholders, and power relationships are discussed as one explanation of the ways the interests of different actors are represented in actual action. Whereas for owners of summer dwellings the choice of a specific landscape is most important for their choice where to spend holidays, village inhabitants link community ties to their perception of place. These differences in the understanding of place cause partially different attitudes to the landscape. The physical appearance of the landscape is determined by an arena of actors with specific interests. In the field walks it seemed to be assumed that a farmer has a certain position of control, but (s)he is subordinate to the control of regulations proposed by the EU and other governmental agencies, because of the domination of economic dependence on the non-human environment. In this respect, the general public and tourist sector – stakeholders mentioned by the participants too – were considered to be less powerful.

Ecological land use can be envisioned, as it were, to take place in an arena in which stakeholders emphasise different ways of depending on the non-human environment. Platforms for resource use negotiation (Röling & Jiggins 1998) might form one solution for a more ecologically sound land use (paper IV). That is, such platforms might facilitate the negotiation between the different kinds of dependence on the non-human environment in such a way that it reflects the interests of all stakeholders.

Local self-reliance and self-sufficiency

I consider feedback and redundancy to be two conditions for a more sustainable management of natural resources (paper I) and thus for ecological land use. The monitoring of changes in the non-human environment delivers feedback that contributes to the ecological knowledge of actors (paper IV), i.e. the knowledge component that influences people's intentions in the theory of Ajzen & Fishbein (1980).

Redundancy can be achieved through parallel systems of local resource use. It can be facilitated in a situation where a certain degree of local self-sufficiency is pursued. If this would be the case, there would be a balance between the territory with which a person identifies him- or herself and the area from which he or she appropriates natural resources to support his or her lifestyle (Hornborg 2000). As local self-sufficiency facilitates an actor's interaction in the local non-human environment, it might facilitate adaptive management (paper I).

Local self-reliance requires control over decision making at the local level. Such local self-reliance could be established through local institutions. In their functioning, such institutions might draw on social capital. Being a condition for the functioning of local institutions, social capital is bound to a specific group of people at a certain point in time. If it is not used, the stock of social capital will diminish. The platforms for resource use negotiation mentioned previously are an example of a local institution that might draw on social capital.

Yet, local self-reliance and self-sufficiency should not be regarded as something to be pursued in isolation. Boundaries of localities should not be seen as rigid and not all problems occur on the local level. For self-sufficiency this might imply that both local and extra-local stakeholders could use local resources, but that there should be a clear distinction between 'givers' and 'receivers' (Powell 1998). Progressive appropriation might be a relevant principle for natural resource use. With regard to decision making, polycentric governance systems (Ostrom 1998, Imperial 1999) are an appropriate alternative.

6.3 Ecological land use

Ecological land use: learning and localisation

The objective of this section is to make use of material regarding the role of the non-human environment in liveability, and issues discussed in the papers that concern ecological land use more directly, in the general scientific discussion of ecological land use for the Swedish context. The synthesis presented above forms the starting point for this discussion. In this section, an alternative approach to ecological land use is presented.

I consider the learning approach to ecological land use, as captured by adaptive management (paper I), to form an appropriate point of departure for an alternative approach to ecological land use. The learning perspective inherent in adaptive management postulates that the feedback that is derived from continuous monitoring contributes to a better understanding of the dynamics of the non-human environment so that management and policies can be adapted to the dynamics of that environment. Adaptive management reflects a perception of policies seen as hypotheses and management as experiments from which knowledge can be acquired (Gunderson 1999, Folke et al. 1998).

I consider it important to integrate the socio-economic context in adaptive management, because the socio-economic system has the potential to undermine the sustainability of the non-human environment. For example, the increased competition between farmers induced by the functioning of the global economy has led to intensification of agricultural production and, through that, to a decrease of biodiversity in agricultural landscapes. Another example is found in the shift from an emphasis on territorial integration to one on functional integration. This shift symbolises the increasing disembeddedness of people and is causing a decreased inability to observe feedback from the non-human environment.

From this it follows that I perceive the human and non-human environment to co-evolve. As changes in these systems are inherently linked, I consider it to be necessary that adaptive management monitors and adapts management to socio-economic changes too.

The monitoring of changes in the human and non-human environment, and the apprehension of how such changes influence each other mutually, might be enabled by (a certain degree of) localisation of resource use and decision making. I assume that the monitoring of changes in the human and non-human environment becomes qualitatively better as the geographical scale to which it applies decreases, because

people are likely to be more acquainted with the state and dynamics of the environment in those places with which they interact mostly. In addition to the capability to take in feedback from the human and non-human environment in decision making regarding land use issues, it could be expected that responsibility for doing so is facilitated by an affective bond with that part of the environment.

Example: local food systems

What type of food systems could fit the learning and localisation approach to ecological land use? Firstly, localisation might be achieved at the level of the farm and concerns low external input agriculture (Reijntjes, Haverkort & Waters-Bayer 1992) which has similarities with what van der Ploeg (2000) calls farming economically. The core of this style of farming is formed by a low level of external inputs in farm management and low financial costs as a result of that. Farm management is reconnected to the local environment. As the farmer controls the resources himself, (s)he is likely to be able to adapt his or her management to the feedback that (s)he receives from the local environment.

Secondly, localisation might be achieved at the level at which the farm is linked to consumers. As currently a large proportion of people live in towns and cities, such re-localisation could be accompanied by the re-linking of these towns and cities with the countryside (Grey 2000). Close contacts between consumers and producers could facilitate feedback between these groups of actors (Hinrichs 2000). This feedback then might be physical, economic, social and/or psychological. Physically, the farmer produces food for consumers, whereas potentially the organic waste from these consumers could return to the farm. Through the linkage between a producer and a group of consumers, trust is created between these actors, which potentially might be reinforced by direct contacts at, e.g. farmers' markets or through farm visits. Through such close relationships, consumers might create emotional affinity to the farm environment (Kloppenburg et al. 2000), and this in turn might induce a sense of responsibility for that specific farm environment. Hence, local food systems, in which low external input agriculture is combined with close relationships between producers and consumers, might facilitate the adaptive management of the landscape.

Dynamics behind ecological land use

Figure 4 lifts out the interface between the non-human environment and the social subsystem as it summarises part of the dynamics described in the synthesis of the contributions of the papers. The figure is primarily based on the work of Ajzen & Fishbein (1980) and Kaiser et al. (1999) and applies both to the level of the individual and that of society. Nonetheless, it implies some differences. Firstly, I consider that the variables factual knowledge, social context, and attachment to non-human environment, influence each other mutually. In other words, each of the variables is assumed to influence the other two. Another dissimilarity is found in that I consider the variables – through intentions and behaviour – not to influence the non-human environment in a unidirectional way. Rather, I would argue that feedback from the

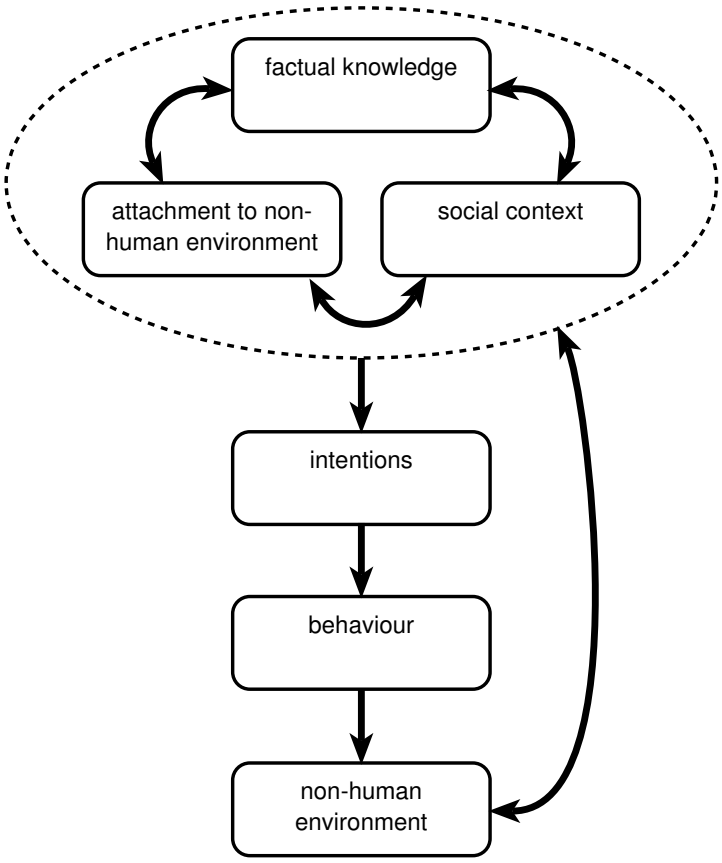

FIGURE 4. The relations between factual knowledge, attachment to non-human environment, social context, intentions, actual behaviour in the non-human environment, and this environment itself.

non-human environment might inform and transform the body of ecological knowledge of a person, and that changes in that environment also influence the meanings a person perceives the non-human environment to have.

The learning paradigm of adaptive management is perceived to be a promising approach to ecological land use. Figure 4 illustrates this learning approach to ecological land use in two ways. Firstly, it draws attention to the social norms and values that influence a person's intentions. But in the context of ecological land use also issues of social exclusion and relationships of power need to be considered. Secondly, an important factor influencing people's sense of responsibility for the non-human environment, and thus a factor stimulating active monitoring, is people's feelings of attachment to that environment.

Relph (1976) explains the meanings people attach to the physical place and the activities that take place there, as well as sense-of-place, to be important for taking responsibility for the non-human environment. Hornborg (2000) seems to make similar assumptions. What Figure 4 adds to these authors' understandings is that the influence of the social context on the intentions and behaviour of actors, and the role of factual knowledge in this, should be considered too.

Figure 4 thus goes beyond the theory of reasoned action of Ajzen & Fishbein (1980), which is developed further by Kaiser et al. (1999), the adaptive management paradigm, and the work of Relph (1976) and Hornborg (1998), which emphasises the role of meaning in people's relationship with the non-human environment. Through combining these approaches, I consider reality to be represented in a more accurate way.

6.4 Discussion

Ecological land use and liveability

One of the more general questions underlying this PhD study has been whether the socio-economic system potentially might create conditions so that it affects both the non-human environment and itself positively. For that reason this dissertation started by exploring liveability, the role of the non-human environment in liveability, and the consequences of these two aspects for thinking about ecological land use. It might, however, be argued that the pursuit of ecological land use and liveability are processes that complement and reinforce each other.

Liveability creates opportunities for ecological land use in a number of ways. In this dissertation the increasing importance of discussions around issues of liveability has been explained as a reaction to – among other things – the scaling up of the level of decision making away from the local level. A certain degree of local self-reliance might in fact facilitate the pursuit of both liveability and ecological land use. Community life and local economy might form institutional structures which can be drawn upon (Stenseke 1997) also in the adaptive approach to ecological land use. The development of a stock of social capital can be seen as a derivative of community life and local economic activity, but this stock of social capital might also be drawn upon in institutions regarding ecological land use.

Ecological land use might also create opportunities for liveability. The institutional structure that facilitates ecological land use – emphasising a certain degree of local self-reliance – can be considered as one way of regaining control over local affairs. The monitoring of feedback from the human and non-human environment requires learning not only on the level of the individual, but also on that of the group. The cooperation resulting from that may contribute to a sense-of-community and social capital (paper I). Yet, as monitoring involves continuity in activity, the monitoring of change in the non-human environment itself may reinforce a sense-of-place (paper IV). According to the interviewees (paper I), ecological land use might also facilitate liveability through stimulating local economic activity as a certain level of local self-reliance and self-sufficiency is strived for.

Both ecological land use and the pursuit of liveability might benefit from a certain degree of local self-reliance. Stenseke (1997) argues that for the development of local institutions, which carry power and responsibility, space for adaptation to local circumstances is required. In turn, she assumes that the establishment of such responsibility is encouraged if actors can relate themselves to a specific place. Local identity could thus be considered an important building block for local cooperation.

Hence, such re-emphasis on local decision making structures allows local solutions to be forwarded. To return to the example of local food systems, it could be said that such adaptation to local natural resources is required by agriculture with low external inputs. The type of direct contacts between a farmer and a group of consumers that is to be established is context-dependent too. Such an approach to ecological agriculture is likely to create an emotional affinity to the farm environment among the consumers. It could also create a sense-of-community between the farmer and consumers. Local food systems can thus be expected to reinforce liveability, in which case liveability would apply not only to rural inhabitants but also to the urban citizens in their relation to rural areas.

Thus, ecological land use and liveability might complement and reinforce each other. Through pursuing these in combination, the spiral in which the current socio-economic and political structures influence both the non-human environment and itself negatively, may be converted into a positive one. The paradox of the CAP, discussed in section 1, could thus be transcended through emphasising linkages between ecological land use and liveability.

Ecological land use in a wider political, economic and social context

The perspective of ecological land use based on learning and facilitated by localisation of resource use and decision making, contradicts some important trends in current Swedish society.

Firstly, the perspective of ecological land use contradicts certain characteristics of the CAP. At the agglomerate level of Europe this policy neither facilitates adaptation to local context nor the incorporation of feedback from the non-human environment. The formulation of the CAP is static rather than dynamic in character. Moreover, the detailedness of the regulations inhibits adaptation to local conditions.

Ecological land use is affected by processes in the global economy too. It seems to be the principle of comparative advantage that directs global economic activity. The relatively local food systems in the first half of the 20th century have become global at an incremental pace. The redundancy at the global scale that was inherent in the local food system has made way for global vulnerability. Global food security is becoming increasingly endangered by crises in food production.

Finally, the lifestyle of people might counteract ecological land use. At Linderödsåsen a shift from an emphasis on territorial integration to one on functional integration has been observed. Parallel to this shift, and reinforced by the local economy, consumption patterns have become increasingly global. Hence, the area from which people appropriate natural resources or otherwise affect through their actions, has come to be the globe, whereas identification has not necessarily followed this

trend (cf. Hornborg 2000). This disembeddedness has led to anonymity in the food chain. In general, Swedish consumers suffer from a loss of understanding of the effects of their consumption patterns on the non-human environment because feedback from that environment is no longer perceived.

Challenges for the future

I consider the challenges for the future to lie in the pursuit of ecological, economic and social sustainability simultaneously. Both ecological land use and liveability should be pursued. As they complement and reinforce each other, the processes need to take place locally, but also in governmental agencies, and these levels should be tuned to each other. Both the local and the governmental level face a huge challenge. Further research is needed to facilitate these changes.

In the discussion of ecological land use great emphasis is laid on the assumption that a higher degree of local self-reliance and self-sufficiency might make people feel responsible for their locality. Based on my field experiences regarding the role of sense-of-community, social capital and sense-of-place in the pursuit of liveability, and the role of the non-human environment in liveability, I expect this assumption to be true. Yet, there is still much uncertainty about the conditions under which people might take responsibility for their non-human environment and what role the two values of community, as well as sense-of-place, may play. Firstly, research is needed that searches for an understanding of the (variety of) aspects that influence people's sense of responsibility. This would allow for the research on the role of sense-of-community, social capital and sense-of-place in people's sense of responsibility for the non-human environment, to be placed in larger context. Thirdly, these aspects, concerning the level of the individual, need to be considered in a societal perspective, as they are influenced by aspects such as social norms and values, social exclusion, and power relationships, i.e. the factor social context in Figure 4.

It has been argued in this dissertation that small-scale farming stimulates open landscapes and that low external input agriculture could be one example of such small-scale agriculture that allows for adaptive management. Another aspect that has been touched upon is the increasing importance of rural areas near cities for tourists from urban centres. Close connections between farmers and consumers might not only counteract the disembeddedness of these actors, it might also facilitate the tightening of feedback loops. Moreover, these consumers could potentially develop attachment to the farm environment (Marsden 2000). For the farmer, direct interaction with consumers (e.g. in the form of a vegetable box system) might imply a higher degree of financial security (Hinrichs 2000). The combination of small-scale farming and close producer–consumer relationships might thus embody an impulse to the liveability in the rural areas, in that it potentially stimulates the appearance of the physical place and strengthens the local economy. In addition, such local food systems could generate redundancy to the food system on the global scale. Yet, further research is needed on at least two aspects: the interface between local and the global food systems and the conditions under which such re-localisation of the contemporary global food system might take place.

Such initiatives need to be complemented by conducive policies (Röling & Jiggins 1998). The restructuring of the CAP that the EU currently is occupied with, might form an opportunity to introduce some major changes in the structure of this policy. For this context, the pursuit of ecological land use and liveability has four major implications: polycentric governance systems, the integration of what currently are sectoral policies, iterative adaptation of policies to changes in the non-human and human environment, and participative policy development.

Firstly, the restructuring of the CAP could provide an opportunity to introduce polycentric governance systems through emphasising that decisions should be taken at the institutional level at which the problems occur. In such a way, policies could be adapted to the socio-economic non-human environmental context of the institutional level that they concern. Such polycentricity could emphasise linkages between the levels at which decisions are taken. Yet, an important question remains how such polycentricity could take shape in practice. Could, for instance, the decisions taken by municipalities be attuned to solutions put forward by local development groups and other local institutions? Do policies and regulations at different levels need to be of a different kind? Do, for instance, policies at lower levels need to be more detailed in kind than those at higher levels? Further research – and input from a variety of disciplines – in these questions is needed.

Secondly, I would like to argue for the importance of the transcendence of what I consider the paradoxical characteristic of the CAP (section 1). The participants of the field walks in Äspinge recognise the difficulties that arise as a result of the contemporary sectoral policies and claimed for the integration of land use and local development policies so as to create opportunities to solve problems in an integrative manner. It was experienced that, currently, policy measures contradict each other. Ultimately, a challenge lies in the transcendence of the sectoral policies regarding land use and local development.

The third implication of the learning and localisation perspective to ecological land use is that policies at the different levels need to create space for iterative adaptation according to the assessment of feedback from the non-human and human environment. This might imply a shift from an emphasis on details to providing the framework for the functioning of institutions. It should be facilitated whereby such institutions go through iterative cycles of monitoring and assessing feedback from the non-human and human environment and of integrating this feedback in management. Yet, the way in which such policies might be shaped remains an issue for further research.

Implicit in the call for polycentric governance systems and adaptive management is the fourth implication, namely the participation of all local and extra-local stakeholders who are affected by the issue that the decision making concerns. One form through which such participative policy development could take place is through platforms of resource use negotiation. The functioning of such platforms, including ways in which a balance is sought between different interests, and the way in which such platforms could be integrated in polycentric governance systems, remain issues for further research.

6.5 Conclusion

The integration of the lifeworld perceptions of the role of the non-human environment in the pursuit of liveability in the scientific discussion of ecological land use has been the objective of this section.

A learning perspective needs to be inherent in ecological land use. That is, land use needs to be continually adapted to changes in the non-human and human environment. This approach relies on the ability of stakeholders to read feedback from the environment, which in turn is facilitated by a certain degree of local self-sufficiency and self-reliance. This would also positively influence community life and the local economy; the pursuit of ecological land use and liveability could be considered complementary processes. Moreover, the pursuit of liveability could reinforce ecological land use as it might create the institutional structure upon which it could be based. Thus, this perspective of ecological land use nevertheless contradicts current processes of globalisation and rationalisation regarding governance, economy and social life.

In the light of the current restructuring of the CAP, the challenge lies in the adaptation of this policy in four directions: polycentric governance systems, the integration of ecological land use and local development policies, the inclusion of the possibility of iterative adaptation of such policies to changes in the environment, and participative policy development.

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