

The Natural Resource Turn: Challenges for Rural Research and Policy

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Abstract

Forecasts for demographic change and long-term economic growth in the world indicate a probable critical growth in demand for biological resources such as food, bioenergy, and forest products over the next few decades. In Sweden, as in other western economies where the rural economy and the rural population have been declining since the Second World War, such an expected *natural resource turn* may have major implications for social and economic change in rural areas. In this paper we explore the research needs that follow from the perspective of a natural resource turn, which we define as a long-term economic upgrading of natural resources following on critical growth in demand. Based on the situation in Sweden, we elaborate on four themes, considered as central to understanding natural resource turn-related rural change from a future perspective: (a) the production and management of biological resources and landscapes; (b) demographic change; (c) the location of economic activity to rural areas; and (d) social transformations in rural communities. Finally, some policy implications of these changes are outlined.

Key words: Natural resource turn; rural studies; rural development; rural policy; future studies; demography

1.0 Introduction

In 2007 the Swedish Environmental Advisory Council (SEAC) finalised a study on issues of long-term environmental concern. Based on a penetration of existing forecasts for demographic change and economic growth in the regions of the world until 2050 the study foresees a critical growth in demand for biological resources such as food, bioenergy, and forest products (SEAC, 2007). The SEAC results point toward a paradigmatic shift concerning the future of rural areas in Europe. Yet, the rural policies of the European Council (European Council, 2006) are mainly based on a concern for the weak competitiveness of farming in Europe as a result of the long-term trend of falling prices in agricultural products on the world market and of the liberalisation of food trade that may follow from WTO negotiations. Abandonment of land and less intensive production is expected rather than an increased pressure on land resources (European Commission, 2007). However, the growing global demand for food, energy, and forest products implies

challenges for the productive capacity as well as for biodiversity and may also affect social and economic activities in general. Therefore, with the SEAC scenario becoming a reality there is a need to rethink rural change and rural development in Europe.

In Sweden, the national rural research strategy, adopted by the Swedish Research Council, Formas (Formas, 2006), and the Swedish Government Rural Development Committee (Waldenström & Westholm, 2006), already identified a possible increase in the demand for biological resources that affect rural Sweden. The research strategy suggests a need for Swedish rural research, linking the local to the global and reconnecting natural resources to the future of rural communities. This article takes this a step further and outlines a research agenda for Swedish rural research in which four central aspects of rural change are explored in relation to an anticipated natural resource turn, which we define as a long-term economic upgrading of natural resources following on critical growth in demand. In the last section implications for rural policy research are discussed.

1.1 The Rural Environment as a Research Field

Identifying “the rural” as a specific research field is important despite the long-term trend of economic, social, and cultural integration between urban and rural environments. Information and communication technologies, media, migration, and daily commuting are weaving rural and urban areas together (Appadurai, 1996). Individuals increasingly divide their time between urban and rural environments, and social and economic change must be studied as general processes in which spatial differentiation is an outcome rather than a starting point.

Yet, we suggest that rurality in western economies still differs in two fundamental ways from the urban landscape, making the rural environment a separate research field. First, *the physical environment*, characterised by natural landscapes and cultivated land, still produces institutions and social relations that are associated with the way the rural landscape is used. Second, *the relatively low population density* means lower accessibility to services and markets and gives rise to different institutions, infrastructure, and social and economic activities in rural areas when compared with urban areas. This view on rurality is similar to the one suggested in the Government Report on Rural Development (Westholm & Amcoff, 2003).

Rurality must be seen as a conceptual category in relation to “the urban.” To handle the wealth and diversity inherent in the concept, rural studies must be able to tie in with other disciplines and create links between perspectives and researchers working with specific aspects of rural areas. In order to capture the spatially complex social order and variations of rural space, it is necessary to allow for variation in geographical scale and defining indicators. Geographic information systems (GIS) and statistics based on high-resolution data, identifying single individuals and households by coordinates, allows such a flexible relationship to spatial delimitations. Therefore, “the rural” will and must be defined depending on the specific research question and environment in which it is applied.

2.0 Rural Sweden: Welfare, Competition, and Natural Resources

In order to explore the effects of a possible natural resource turn in Sweden it is necessary to briefly outline the role of rural areas in the welfare state as well as in

the succeeding era of competition politics. During the 1930s a long period of restructuring and rationalisation began in forestry and agriculture. Labour demand within the primary sector declined and rural regions experienced increasing unemployment and migration to the growing industrial towns. The welfare state approach to this transformation was double: The state facilitated migration of labour to the industrial districts and, in parallel, subsidised capital investments in the less industrialised rural regions. The first subsidies for investments in peripheral rural regions in Sweden were introduced in 1952 and were later supported by transport subsidies to the same areas.

The arguments for state intervention to diminish uneven development were economic and social and were related to defence interests. The *economic* aim was to disperse industrialisation so that labour leaving the primary sector in rural regions could enter industrial jobs locally, adding to national growth. The *social* aim for spatial redistributional policies was based on the general-welfare concept: Equal conditions for all could only be achieved if they reached all of the country. Improved general welfare should also increase the buying power of households and thus be a driver for economic growth (Andersson, 2003).

Similar efforts to extend urban industrial growth into peripheral regions have been used in most western economies (Brenner, 2004). In Sweden these policies were mainly designed by the ruling Social Democratic Party, but as Sweden was industrialised and urbanised late, the rural–urban bonds were strong and the efforts to hamper uneven regional development were supported by a broad consensus among political parties and civil organisations. In the mid 1980s a national campaign called All of Sweden Shall Live was launched to establish a popular movement engaging people in local development in rural areas. The campaign slogan reveals the ambiguity of the time, a continued recognition of the importance of rural areas, and at the same time, an erosion of trust in the efforts made by the state to achieve this. This top-down introduction of endogenous development was at that stage a way for the welfare state to reallocate responsibilities to the local level and even back to the citizens in rural regions. Development was to build on actions taken locally in the everyday life of people.

During the following decade, however, the importance of international competitiveness became a central issue in spatial planning in Europe in general (Jessop, 2002). In Sweden, the idea of distributing prosperity to all households and to all localities and regions was gradually replaced by an awareness of the imperative of increasing global competition to develop competitive regions, mainly the urbanised parts of the country. Finally, in 2001 the reorientation of spatial politics left rurality behind, as a residual from preindustrial times with a declining agriculture and an aging and shrinking population (Swedish Government Bill, 2001/02). The “all of Sweden must live” concept was giving way to the idea of supporting growth processes, especially in urban labour markets where economies of scale and the age structure in the population cause organic growth (Westholm, 2003).

Nevertheless, subsidies to agriculture and rural development survived through Swedish EU membership in 1995, which gave Sweden access to the Common Agricultural Policy (CAP). The EU perspective on regional unevenness reflected in the Structural Funds directed the changes made on the national level in Sweden thereafter. In the last decade, the CAP has developed toward a

rural development programme and Sweden has a substantial share of the programme for the period 2007–2013.

3.0 Central Issues: A Thematic Classification

A future upgrading on the world market for food, bioenergy, and forest products may influence rural–urban relations in various ways. Not only forestry and agriculture but also the rural economy in general would be affected, as would migration patterns, local development processes, policies for rural areas, and the conception of rurality in general. The following thematic discussion aims at outlining a research agenda based on such a natural resource turn. We have tried to identify the big issues related to rurality, questions vital to social and economic development. The themes should not be considered in isolation, as they are intimately interrelated.

3.1 Demographic Challenges

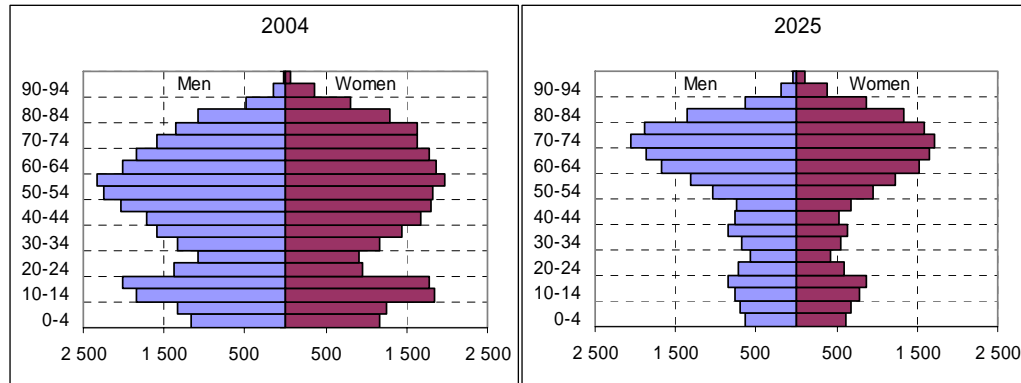
The expected natural resource turn is partly driven by global demographic change. The key factor to open this field has been the recognition of the age structure as a determinant of a number of socioeconomic indicators. While an increasing share of the population of working age increases the productive capacity, a rising number of children and senior citizens exposes the economy to economic stress. Going into details, every cohort has its own patterns of production and consumption and these patterns are in a general sense fairly stable and similar over time and also in various economies. Even if there are variations in the age of starting school, entering the labour market, moving away from home, or retiring from work, over time and from one society to another, a fundamental stability in the life-cycle pattern remains (Malmberg & Sommestad, 2000). Demographic variables are also fairly stable. Even though migration to and from a given place can vary widely, the basic demographic patterns are more predictable than most other variables. According to the United Nations (2000), five phases of age transition can be identified on a global scale. On the basis of the correlation between these phases and economic growth, forecasts of economic growth have been made for all parts of the world (Malmberg & Lindh, 2004).

Demographic structure has also proved to be a powerful tool for forecasting the future in more specific contexts. The SEAC report applied a detailed demographic analysis to forecast the future demand for biological resources. Also the Intergovernmental Panel on Climate Change explores these kinds of projections and comes to a similar result. Demographic change in the so-called BRICS countries (Brazil, Russia, India, China, and South Africa) is expected to drive economic growth on a global scale. This may have a radical impact on rural areas in Sweden.

A demographic approach to rural research is motivated by the fact that both the size and the age distribution of a population are closely related to social and economic factors (Lindh & Malmberg, 2000). Population development is also one of the big future challenges facing rural Sweden. After decades of out-migration of young people, many rural areas are entering a new phase of “advanced aging.” In these areas, the proportion of the population that is of working age is declining. Few children are born as there are relatively few women in fertile ages. These imbalances are now so great that not even substantial changes in the migration patterns would suffice to reverse the trend (Amcoff & Westholm, 2007). Many

rural areas will experience economic stagnation. The available workforce declines at the same time as the need for employees in healthcare and care of elderly increases. The risk is that a shortage of labour will be combined with skewed labour markets (Nygren & Persson, 2001). A simple projection of today's migration patterns and birth and death rates shows that many parts of rural Sweden, not just the remote periphery, is entering a stage of advanced aging (see Figure 1).

Figure 1. Structure of the population in the 10 weakest (concerning expected population development) labour market regions in 2004 and 2025 (projected).



From "Understanding Rural Change—Demography as a Key to the Future," by J. Amcoff & E. Westholm, 2007, *Futures*, 39(4).

The population crisis facing large parts of the country will be addressed by political decisions at various levels, by adaptations from households and individuals, and by market-based decisions, among other things. Such responses to population changes will lead to variation in preconditions and outcomes that point to the interrelatedness of endogenous and exogenous processes. In peripheral rural areas in particular, population change may increase the need for new forms of cooperation between private, public, and civil-society actors and for new solutions for the availability of services. Also, an increased pressure for redistribution of incomes from urban areas may follow from population decline and aging.

The problems of advanced aging, however, do not apply to all rural areas. In the vicinity of the large cities and along the coasts, there is a net in-migration of young adults. New migration patterns include middle-class people moving from the big cities to exclusive rural environments within commuting distance; low-income households looking for cheaper housing; and newly retired people living in their second homes for longer parts of the year (Amcoff, 2000; Garvill, Malmberg, & Westin, 2000; Hall & Müller, 2004; Stenbacka, 2001). In periurban and commuter-based labour market regions a gentrification takes place as traditional industries recede and the advantages of rural living is explored (Amcoff, 2000).

A hidden issue in Sweden is the importance of second-home occupancy. Even though it is widespread, second-home occupancy is not visible in the population statistics and is therefore not addressed in public policy and planning and rarely in research (Hall & Müller, 2004). The attempts that have been made to estimate second-home occupancy indicate that it greatly increases the population in certain rural areas during parts of the year. This phenomenon affects all kinds of social

and economic activities. More pensioners and an increased demand for attractive environments may increase second-home occupancy in rural areas. Rural Sweden has experiences to draw upon from other countries in Europe, where certain rural areas experience economic growth following on increasing numbers of affluent pensioners who leave urban areas at the end of their working life (Lowe & Speakman, 2006).

To what extent may a natural resource turn affect these demographic trends? A crisis may enforce new migration patterns and new types of commuting based on natural resources in a broad sense. Could the sparse population in large parts of rural Sweden, which today is mainly a disadvantage with expensive infrastructure and weak labour markets, become a national asset with many hectares per capita? At least, the natural-resource-turn outlook seems to demand a new perspective on demographic change. Communities in rural Sweden could find themselves in a basically new situation where increasing needs for policy interventions and penetration from international capital may take place. So far, though, population studies represent a powerful tool that has been rarely employed in rural research. The details of migration patterns of different groups, as well as differences related to gender, class, ethnicity, and culture hold the key to understanding rural change.

3.2 *Economic Development*

In Sweden, research on small firms and entrepreneurship has addressed the local/regional dimension in general and the nonurban dimension in particular (e.g., Brulin, 2002; Johannisson, 2003). This research represents an alternative track to the dominant research on regional economy, which focuses on regional enlargement, economies of scale, and the like, thereby marginalising the economic potential of rural areas. Studies on the growing social economy constitute another economic research approach that is well developed in Sweden and that focuses on rural environments (Westlund, 2001). This research on local economy and small and medium-size enterprises ties in with the particular preconditions of physical landscape and sparse structures in rural areas as we defined them in the introduction.

Globalisation brings considerable challenges for rural companies because of competition from low-wage countries and the increase of free trade arrangements and nonlocal ownership (Lindkvist, 2001). It also offers new opportunities for those who are able to combine local networks with the new networks and flows afforded by globalisation (Aarsæther, 2004). For example, information and communication technologies allow companies to communicate with markets and suppliers regardless of distance. In tourism, in particular, the Internet plays a crucial role in reaching new customers. All in all, economic research shows that successful rural companies are able to create many relationships in an increasingly network-based economy (Ekstedt & Wolwén, 2003). This again may be seen as local actors' taking advantage of and constructing opportunities in response to changes in a broader context.

However, a basic difficulty facing the rural economy is the limited range of choices that follows from sparse structures. Local markets for products and services are limited and so is the supply of labour. Some rural environments seem to be able to compensate for these disadvantages by offering other location advantages. Social relations, culture, and corporate climate have proved to be vital for companies, and these circumstances vary widely among different localities and

regions (see, e.g., Maskell, 2001; Rantakyrö, 2000). More detailed understanding of rural labour markets is also lacking. Seasonal work in tourism and natural resource-based industries, as well as combinations of business activities and employment, are examples of the ability of local rural labour markets to entail both vulnerability and robustness for the individual. The tradition of pluriactivity, partly a historic pattern tied to the primary sector, and the importance of the informal, gray/black economy in rural areas have not been adequately studied.

For many decades, there has been a transition from land-based industries to other business activities via part-time farming and diversification, perhaps to the “new,” diversified rural economy that the EU has emphasised in recent years. These are long-term processes in which traditional agriculture and forestry are supportive components in the gradual development of a new rural economy. The concept of *production* has been broadened to include the service sector in the knowledge-based economy. Local synergies are developed between the production of services and products, such as local food, tourism, experiences, and landscape. The crossover is obvious when it comes to the EU programmes and the discussion on “production of landscape related services” (Myrdal, 2001) in which the importance of rural environments as such becomes yet another motive for tax incentives and subsidies directed toward land management. How will an increased demand for energy, food, and fibre from agriculture and forestry affect these trends for diversification?

Obviously a natural resource turn would bring both opportunities and threats. Increased land prices and higher producer prices have the potential to bring vitality to declining rural areas in Sweden. An early awareness of the conditions that may result from an upgrading of biological resources can prevent an unexpected crisis and open up new opportunities. In a first phase, probably the abandonment of land will slow down or cease to exist. More-intensive land use and more intergenerational succession of farms are other likely results from a better economy in the primary sector. An upgrading of land-based resources would also advance the possibility for more radical changes to the local economy. Penetration from foreign capital, a quicker restructuring of small firms, and more large-scale and specialised production are possible outcomes. In addition, future energy costs are a key issue for the future of the rural economy.

3.3 Social Transformations

The function of “the local” is a central theme in rural research. It has been explored in academic disciplines under various concepts: place, locality, local community, local development, and rural development, among others. Common to these approaches is the interest in relations among people who strive to achieve something within a limited territory. During the last 10 years this research has been dominated by institutional approaches that focus on norms and values and how they direct the way that people organise locally. In order to protect the common assets in the local community a place-bound ideology seems to replace or complement the traditional left–right political parties (Herlitz, 2000).

Swedish examples of this trend are the activities of village groups and local community associations, which have increased in Sweden since the 1980s (Berglund, 1998; Herlitz, 1997). Local groups are engaged in issues related to local services, safety, business development, and housing, as well as to cultural activities (Bull, 2000; Forsberg, 2001; Waldenström, 2004). Research shows that successful groups often

have good relations with actors outside the community and extensive networks. Questions about legitimacy and participation, as well as about which interests local groups represent, are important in these activities (Waldenström, 2008).

During the last 10 years a rapid decline in both private and public services in rural areas has put a stress on the need for new solutions. Within state agencies, employment agencies, social insurance offices, post offices, and police stations have been closed in many small towns (Brandt & Westholm, 2006). A multitude of institutional solutions will be needed in the future. New solutions for services that are based on collaboration between the municipality and local groups are already emerging in some regions. At the same time, digital technology increases the accessibility to information and services in rural areas. A long period of geographic concentration of public and private services, information, and culture seems to be complemented by a process of physical decoupling between the production and the consumption of such activities.

The interest in the local community should be seen as a response to various kinds of long-distance interaction and an increasingly mobile society. The discussion within sociology on a disembedding of social relations challenges in every sense “the local” (Bauman, 2000; Giddens, 1994). Possibilities for commuting, accessing the Internet, and migrating to rural places can lead to population increase and new economic opportunities but may also cause fragmentation, marginalisation, and weaker links within the community (Kåks & Westholm, 2006; Putnam, 2000). When the personal and professional networks of the local population become more extensive and when people with new kinds of skills and capital move in, more and new kinds of resources become available to the local community. At the same time, people’s “living spheres” become socially and spatially dispersed. Increased consumption of media and more long-distance migration imply that people’s lives are increasingly formed by influences devoid of any local connection (Appadurai, 1996). This is perhaps most clear in commuter-based localities. Even when the population increases in numbers, many of the residents may maintain most of their relationships with people outside of the local community. However, this is an unexplored field where many myths prevail; nevertheless, everyday contacts are the most important, and paradoxically many people seem to be even more homebound (Frändberg, Thulin, & Vilhelmson, 2005). These are slow and subtle processes that can fundamentally alter the very meaning of “local” (Blehr, 2000). What are the consequences for social cohesion issues of marginalisation, crime, and political exclusion?

The social transformation of rural landscapes ties in with the implications of a natural resource turn. Institutions, traditions, organisations, and social relations have evolved over time and have been shaped in relation to the rural economy and multiple natural resource uses. For instance, the physical landscape is seen as a common resource and land use beyond urban areas is largely determined by informal agreements (Reiter, 2004). The Swedish right of public access, customs, and easements links people together in the landscape. Often there are several claims on a single piece of land. A sometimes hidden web of relations plays an important role in how the natural resources can be utilised. A global natural resource turn that increases the economic value of biological resources may challenge such established social practices in rural areas. New forms of land tenure and natural resources management will have consequences for social transformation in rural areas. Climate change and higher energy prices raise questions about the spatial organisation of

work and leisure, affecting mobility patterns and demographic development. Furthermore, new preconditions may offer particular opportunities to men and women respectively, something which may both fortify and modify “gender contracts” and succession patterns (Bock & Shortall, 2006; Flygare, 1999; Forsberg & Gunnerud Berg, 2003; Little & Morris, 2004).

3.4 Biological Resources and Landscapes in Production and Management

Central to the natural resource turn are economic activities based on biological resources. In the forefront stand the production values of forestry and agriculture, with their potential for value-added processing, as well as the value of the natural environment as residential, tourism, and leisure space. The share of the rural economy that is based on these resources has evolved gradually over centuries and has shaped the social structure in rural areas, as well as the institutions, traditions, organisations, and social relations connected to these activities.

Internationally, research on the transformation of agriculture and the food industry is lively. Issues of production, the supply of goods and commodity chains, the conditions in the food industry and in agriculture, and the shaping of the landscape through production are explored in such research (Deutsch, 2004; Goodman & Watts, 1997; Wilkinson, 2006). This research field is largely absent in Sweden but is of utmost importance in the light of a natural resource turn. Other research areas for which the perspective of a natural resource turn may have consequences have to do with consumer and producer movements and the relations between producers and consumers, certification systems, and how regional and local identities are used as brands (Goodman, 2003; Guthman, 2002; Lockie, 2002). These issues need to be studied against the background of economic and political conditions as well as values and ethics related to the consequences of a natural resource turn.

The recreational rural economy may also be affected by a natural resource turn. Actors managing natural-resource-related activities, such as golf courses, ski slopes, and tourism, may find themselves in a new situation of conflicting interests and difficulties in relation to regulatory frameworks and institutional divisions. Claims on resource use and antagonisms follow already from periurban population increases, intensified outdoor tourism, and new ways of relating to the land (Hallgren, 2003). Conflicts may also increase in sparsely populated regions where local resources become increasingly important for the local economy.

Experiments with new kinds of resource management arrangements are one way to handle questions of sustainability and conflicting demands. Such arrangements require new forms of collaboration between local actors as well as between actors at different societal levels (Costanza, Low, Ostrom, & Wilson, 2001; Ostrom, 1990; Sandström, 2008). As other governance-based initiatives, they highlight questions of legitimacy and control, of new professional roles, and of individual and collective learning. These are all important research questions related to a natural resource turn.

Finally, there is an obvious relation between a natural resource turn and a number of environmental issues. Increasing prices of food and energy point to a new productivist era, with increased production in agriculture and forestry. In Sweden, 16 national objectives define the state of environment that environmental policy aims to achieve by 2020. Several of these objectives are specifically concerned

with the rural environment and land management. The 2008 evaluation of the objectives indicates that more than half of them will be very difficult or impossible to attain within the defined time frame (Environmental Objectives Portal, 2008). Some of these are related to the use of land and water, and a critical growth in demand for biological resources would add to these problems. The multifunctionality of agriculture is linked to the ability of land-based industries to cultivate and manage natural resources in the long term (Falconer, 2000; Myrdal, 2001; Wiggering & Helming, 2003). Yet, an increased competition over land for producing food, energy, and forest products could drive more intensive land use and challenge the efforts made over the last decades to increase biodiversity and multiple land use.

There is an obvious need for research concerning increased competition over land among various types of production, such as for bioenergy, food, fibers, biodiversity, and residential environments. What kind of institutional change is a natural resource turn calling for? Property rights under pressure from international capital, threats to biodiversity by increased pressure on the land, and policy formation on local and national levels are only examples of topics that may require a fundamentally new understanding. The complex relationships between ecosystems and environmental issues on the one hand and issues of production and economic development on the other will have to be reconsidered (Gravsholt Busck, 2002; Olsson & Folke, 2001; Siebert, Toogood, & Knierim, 2006). The natural resource turn will increase the need to understand the complex human–nature relations causing the problems and what must be addressed in order to solve them. A development toward the integration of social and natural sciences in rural research can in itself be regarded as progress.

4.0 Policy Implications of a Natural Resource Turn

Today, Swedish rural areas are in a period of political uncertainty. Competition-oriented urban regional politics still dominates policy. Yet, rural Sweden is heavily subsidised, mainly because of the extensive EU programmes on rural development. The EU's rural policy, with its structural programmes and the EU Rural Development Programme dominated by support for the transformation of agriculture, has constituted a cornerstone that brings billions of Swedish *kronor* in subsidies to rural Sweden at least until 2013.

The CAP still dominates the EU budget and affects the structure of agriculture, the landscape, living environments, and biological diversity. The CAP is gradually being transformed toward a rural policy, which has contributed to renewed interest in local development (Brouwer & van der Straaten, 2002; Ray, 2000; Shucksmith, Thomson, & Roberts, 2005). Project cultures, development thinking, partnership, approaches across sectors and administrative borders, and technical and institutional renewal are examples of phenomena that often are described as results of endogenous processes, even though there are clear political and ideological intentions and concrete development programmes that have been launched at the national or EU level to enhance them (Larsson, 2002). The change from productivist subsidies toward rural development results both from WTO negotiations and efforts within the EU to escape the costly CAP.

Territorial policy strategies for rural development are implemented on the initiative of the EU. The European cohesion policy has brought a new emphasis on the characteristics of different rural areas. Social relations, local culture, and corporate

climate may vary widely among localities and regions. In a territorially oriented policy, a unique set of assets, problems, and potentials is at the core of rural policy. On that basis, attempts are made to support general processes that contribute to better conditions for development and to liberate and develop local resources characteristic for the area. Policy is used to strengthen social processes and relations that may create synergies and economic growth in the territory. Cross-sectoral partnerships, networks, and joint projects are recommended as policy instruments (Moseley, 2003), and there are expectations that partnerships and networks shall lead to development, synergies, and learning (van der Ploeg et al., 2000; Valve, 2003). Territorial initiatives are ideally based on the assumption that local contexts can be linked up with regional, national, and global levels. Thus, both *sectoral* initiatives that increase regional unevenness and *territorial* initiatives are handled within the framework of the EU development policy (Shucksmith et al., 2005).

In a possible natural resource turn, these policies will not be sufficient. Rural research must establish relations to research on climate change, the future utilisation of food and fibres, modes of capital accumulation, and the international power hierarchies in production and resource utilization. An increased competition over land will intensify conflicts over scarce biological resources. Furthermore, the uneven character of demographic changes will emphasise the need to understand better the particular challenges in specific localities related to the multiple demands and claims on natural resources. Public-choice issues and issues of property rights, collective utilities, and externalisation of costs in relation to biological resources are likely to grow in importance.

It will be necessary to open the field of rural studies toward general development within the social sciences and to address developments outside the confined rural communities in western economies. It is obvious that rural research in Sweden must succeed in linking the local to the global in order to reconnect natural resources to the future of rural communities. The challenges that a natural resource turn raises will not be met by the simplistic idiom of local growth processes that has dominated the field for decades.

The trend in rural policies from direct state interventions in the 1970s toward promoting endogenous development should also be critically investigated. Is this a retreat of the state or is it rather a new form of state control? What dependencies and vulnerabilities are being built up in time-limited projects? What are the democratic implications? Policy-oriented rural research must critically evaluate the effects of all project-based policies. This should be linked to the extensive international research that exists around EU programmes (Westholm & Amcoff, 2003). How are EU decisions translated at the national, regional, and local levels into concrete activities in the landscape? What interests are present and what are the driving forces? Studies of the long-term effects of political initiatives are needed, as are multidisciplinary studies of such effects.

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