Rural reconstruction in a market economy

Edited by
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Mansholt Studies 5

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MANSHOLT INSTITUTE

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PREFACE

J. Renkema*

Autumn 1993 saw the beginning of a rather remarkable development at Wageningen Agricultural University: consultations were started between scientists from various economic, social, philosophical, judicial, managerial and rural planning disciplines in order to explore the possibility of forming a multidisciplinary graduate school. The idea behind this unusual phenomenon was that the complex and dynamic nature of the problems facing agriculture and rural areas requires a joint multidisciplinary research programme. Of course the discussions affirmed the differences in ways of thinking and scientific methods of these birds of different feather. However, after some time it was agreed that this diversity in scientific approach and the synergy it could create is precisely what is needed to address the complicated problems agriculture and the countryside are facing.

On 28 June 1994, the Mansholt Institute, named after Dr Sicco Mansholt (1908-1995) was established. It was a pleasure that the celebration could be attended by Dr Mansholt himself, who was still in good health at that time. As a former Dutch Minister for Agriculture and (vice) president of the European Union, Dr Mansholt had made a major contribution to agricultural policy and development, not just in the Netherlands but in the whole of Europe. He gave his support to the purpose of the Mansholt Institute, which is to be achieved by means of a well coordinated and integrated research programme of different social sciences and a good education and training of young researchers.

To mark the beginning of its activities and to present itself to the academic society and leaders in the agricultural sector in the broadest sense, the Mansholt Institute organized an inaugural symposium "Rural reconstruction in a market economy". This symposium, which took place on 14 December 1995, was attended by more than a hundred people. Leading scientists from different disciplines gave their vision of the symposium theme, as did also representatives of the European Union and of the Ministry of Agriculture, Nature Management and Fisheries. Post-graduate students working on the different Mansholt research themes presented their research in a poster session. As an unexpected illustration of the intense transformation problems of agriculture and the countryside, the symposium was organized in a period in which farmers' protest marches were being held against manure legislation in the Netherlands. There were some indications that the occasion of the Mansholt Symposium would be seized upon to demonstrate again, this time in front of scientists and policy-makers. Emergency measures were taken but when the day came, there was no need to use them.

This book contains the texts of the different contributions to the Symposium. We hope that you will find that together they give a captivating view from different angles on the interaction of science and society with regard to the transformation processes of agriculture. Additional information about the scientific activities of the Mansholt Institute can be found in its annual reports.

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* Scientific Director of the Mansholt Institute.

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CHAPTER 1

INTRODUCTION

W. Heijman, H. Hetsen and J. Frouws*

This book contains papers given at the symposium held on the occasion of the foundation of the Mansholt Institute on December 14, 1995. The Mansholt Institute is a multidisciplinary research institute for social and economic sciences. The idea of the papers was to shed light on the theme of the symposium, "Rural reconstruction in a market economy", from different viewpoints.

In the first contribution, Cees Karssen, Rector of the Wageningen Agricultural University sketches in short the establishment of research institutes (or graduate schools as he calls them) at Dutch universities in general and at the Wageningen Agricultural University in particular.

Then Laurent Van Depoele, Director of Rural Development of DG VI, Agriculture, European Commission gives an explanation of the background and principles of the 'European Rural Development Policy'. The purpose of EU rural development policy is to promote economic and social cohesion within the Union by assisting the socio-economic development of rural areas. As a consequence of a general economic crisis at the end of the seventies, of agricultural surpluses and increasing environmental damage (e.g. by agriculture) the modest socio-structural directives had to be transformed into a more effective structural policy. The eventual reform of the Structural Funds in 1988 can be seen as a clear shift from sectoral structural policy to a more integrated approach of rural areas. Since then, the principle objective of EU rural policy has been to maintain viable communities; not only in financial terms, but also by ensuring the provision of all the other elements which contribute to the quality of life. In one of his conclusions Van Depoele warns against being too ambitious. The concept of EU rural policy as a development policy and not a compensation policy must be strengthened. That said, however, the trap of believing that it is possible to redress all handicaps and to foster sufficient development activity in all rural areas in order to eliminate all inequalities must be avoided. That would be a naive and false utopian view, and the realities of operating in a market environment must be recognized.

Michel Petit states that agricultural research and education in Eastern and Central Europe are in a very serious crisis: action is urgently needed. This is necessary because an increasing agricultural productivity is necessary for economic growth and this cannot be brought about without a well-performing research and educational system. He wonders whether and, if yes, how the international community can be of help. He deals with these questions in the framework of the emergence of an interconnected and extremely competitive global agricultural research system. This is based on three trends: first, the

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worldwide growth, also in developing countries, of the number of agricultural scientists; second, the explosion of biological knowledge; third, the extension of the research domain. As a consequence: "..., those who are not well plugged in will very much be left out."

Research institutions in Eastern and Central Europe have been isolated from the international scene for a long time. Therefore, they adapt rather poorly to fast changing global circumstances. This is also caused by the lack of economic management expertise. Formerly, research and educational programmes were mainly supply driven. Responses to changing markets that are so much needed in the present were not built in. As far as funding is concerned, Petit sees a vicious circle. On the one hand, because the sector is not productive and effective, scarce public funds are not invested in it. On the other hand, without considerable investments, the sector cannot be effective. Petit believes that the lack of awareness and of any sense of urgency found in the countries considered are a main obstacle for the badly needed reform of agricultural research.

To overcome the problems described, training activities and joint research projects paid for by Western countries are useful. However, Petit considers this solution as "partial" and "insufficient". According to him, the international community should help through a programme of comprehensive reform. Indeed, the contents of such a plan would be an interesting subject for discussion. In addition, a strong domestic political commitment is needed to bring about changes, because: "The institutional changes required are profound and therefore will be resisted by the staff working in the research and educational institutions".

From agricultural policy towards a policy for rural areas. According to Louis Albrechts from Leuven University in Belgium, this is one of the major challenges for European countries unified within the European Union. Agricultural developments in Europe, although fully in line with the central objectives of the Common Agricultural Policy, have resulted in environmental problems in some areas and in marginalization in others. Together with other functional changes, this has led to a decrease in the rich variety of European landscapes and a loss of spatial quality. To safeguard spatial diversity of European rural areas, Albrechts advocates a move from agricultural policy towards a policy for rural areas. Albrechts' paper elaborates on problems and challenges for rural areas, on the type of planning, the specific approach and on the two basic attitudes, sustainability and subsidiarity that are suitable for tackling the problems and for responding to the challenges. This view and approach are confronted with the emerging European planning. Although his paper focuses on rural areas, Albrechts in no way argues for a separation of urban and rural areas. On the contrary, they are intimately interconnected components of one spatial reality. Hence the need for an integrated spatial policy.

In his appealing contribution to this volume, Paul Thompson puts different approaches to sustainable agriculture under philosophical scrutiny. Thompson makes clear that conceptions based on resource efficiency or ecological sustainability may well complement each other, especially those referring to the use of non-renewable and renewable resources respectively. Both research paradigms are only meaningful, however,

after the key value judgements as to the purposes of human life and the distribution of access to life's opportunities have been made. Researchers may happily apply themselves to both conceptions, blissfully ignorant of whether policy-makers share their fundamental value assumptions. The advocates of the so-called social sustainability approach hardly do better in Thompson's critical analysis. In one version, social sustainability becomes a synonym for profitability. However, as research on market structure, finance and productivity has been conducted by farm management experts and agricultural economists for many decades, there is little more to learn about the conditions for sustainability. The left wing version of social sustainability stresses justice or fairness and participation in the making of social decisions. It is not made clear, however, what these moral problems have to do with non-sustainability of a social system. The missing link is an account of why the values favoured by left-leaning social sustainability might be thought to contribute to the regeneration of food systems. Thompson adds to the debate by introducing the notion of practical moral discourse, which some have called 'micropolitics'. This strategic notion refers to linguistic and non-linguistic practices of reproduction and revision of rights, privileges, norms and constraints. Practical moral discourse is the negotiation of social structure. It is a crucial element of effective norms, that is of norms that function as norms, rather than simply as codification of ideology and state power. Simply specifying which behaviour results in sustainable resource use does not, in itself, provide a basis for action. The central research question that emerges from introducing the conflict and negotiation dimension of practical moral discourse is this: how are the norms that would facilitate cooperative and careful use of both renewable and non-renewable resources produced and reproduced in human society? According to Thompson, research topics that issue out of this central question will require collaborative research by philosophers, economists, sociologists, and geographers.

The stimulating contribution of the sociologist Karin Knorr-Cetina to this volume invites a profound analysis of the nature and development of the modern 'knowledge society'. According to Knorr-Cetina, both earlier and recent theories of modernization were not interested in articulating a theory of knowledge and knowledge processes. Knowledge and expert systems have been treated as fixed and ready things, while the fixing process itself has been ignored. Science and technology are seen as dynamic and expanding, but their very 'progress' is a static, unanalysed concept. Their dependence upon and penetration by social, historical and cultural processes is usually ignored. Yet we have no warrant for thinking of knowledge as a coherent phenomenon that can be blackboxed into social theory. The constitution of scientific and technological facts cannot be kept separate from how these facts operate in social life. Many pieces of technology are socially constructed for specific practical contexts, and are also constructed within these contexts. Furthermore, certain practical contexts have themselves become like the scientific environments that used to be identified only with science, but now embody scientific principles of reality construction, reflexivity, experimentation, and the like. Knorr-Cetina suggests the term 'epistemics' to account for the fact that knowledge structures unfold into society, changing the texture of contemporary institutions. Epistemics refers to the question of how we know what we know. It is about the

infrastructures of knowing and world making. It is bound up with shifting notions of truth and objectivity. The epistemic approach to knowledge processes is subsequently elaborated with the help of two concepts: the notion of an object-centred sociality and the notion of a laboratory. The first takes its lead from the kind of relationship that develops between the expert and objects of expertise. Today's technological products are simultaneously things-to-be-used and things-in-a-process-of-transformation. Epistemic objects are characteristically open, question-generating and complex. 'Revealing' them is rooted in structures of care and desire, which form the basis of object-centred sociality. The notion of a laboratory denotes a constructive locale, a 'pastorate of knowledge', based on alterations of social and natural entities and their relations to each other. Laboratories are systems of work and coordination (not only of human groups but also of objects) that look quite different from the features of obedience and the legitimacy of control emphasized by Max Weber. Laboratories are no longer limited to science or technology. The clinic, the stock exchange, the farm and modern corporations also show laboratory features. Both concepts point to an enlarged role of objects in our institutions and in our vocabularies of structure. They help with the understanding of the nature of the discontinuities between modern industrial society and a knowledge society and of how 'knowledge structures' rebuild 'social structures' from within. The structures discussed by Knorr-Cetina point to object worlds. However, as a sociologist she is also open to new roles for social mechanisms and social regulations. She concludes by warning that the 'deregulation of truth' (increasing uncertainty as to what should be counted as true) may make processes of consensus formation more subject to explicit social regulation, that amounts to a (re)socialization of truth.

Finally, the question of future research for the Mansholt Institute is raised by Ewoud Pierhagen, Director International Affairs of the Ministry of Agriculture, Nature Management and Fisheries. He touches on several important research themes for the Mansholt Institute. For example, he sees the ongoing globalization of the economy, population growth, food distribution and land degradation as major challenges for the twentieth century. Further, "closer to home" is the reform of the CAP and the eastern extension of the EU. These can be considered important phenomena asking for research supporting the right policy decisions. Also rural problems must be taken into account in Europe. Research is needed to find new sources of income for depopulating regions that are less favoured for agricultural production. In the Netherlands it is important to look for opportunities for increasing competitive strength, for example, with respect to the better production circumstances in the southern Mediterranean for horticultural products compared to the Dutch greenhouses. Finally, an important topic for the future is the allocation of land. It is important to note that here 'lifestyle' plays an important part. Land is not only needed for agricultural production and housing, but also for recreation and the development of nature. Pierhagen concludes that development in the rural areas is no longer determined solely by agriculture. Social and environmental views have to be taken into account as well. It is in this field that the Mansholt Institute can contribute to the solution of major social and economic problems.

CHAPTER 2

OPENING

C. Karssen*

It is my great pleasure to welcome you all to the Aula of the Wageningen Agricultural University on the occasion of the Opening Symposium of the Mansholt Institute. The Mansholt Institute is one of our graduate schools and is therefore part of the dramatic change in the organization of our research activities that have occurred in recent years. It might be good to remind you of the roots of that change.

It all started in 1990 with an initiative of the then newly appointed Minister of Education and Science Dr Jo Ritzen. He launched the idea of establishing graduate schools at Dutch universities, concentrate on top research and to organize the training component of the PhD students. I still believe this initiative of minister Ritzen to be one of his best. Unfortunately it became somewhat overshadowed by his later actions.

The reaction from Dutch universities was overwhelming, and initiatives emerged everywhere like mushrooms in the autumn. At the moment, hardly 5 years later, more than 80 graduate schools are functioning and a considerable number of them are officially recognized by the Royal Dutch Academy of Sciences and Arts. Cynics regard this reaction as the umpteenth time that universities have rushed forward in a race for money and survival. Well, let's be honest, that might be part of it - scientists are also human - but there is more. The graduate schools have proved to be an excellent way of improving the quality, organization and management of research activities at Dutch universities. They have also finally given shape to the training of the PhD students. In that sense they really function as Schools.

The procreation of graduate schools has also occurred at our University. Two were among the first in the country: Experimental Plant Sciences and VLAG, a Dutch acronym that stands for Nutrition, Food technology, Agrobiotechnology and Human Health. Four others soon followed: WIAS, the Wageningen Institute of Animal Sciences, the C.T. de Wit School for Production Ecology, M&T, the graduate school for Environmental Chemistry and Toxicology and WIMEK, the Wageningen Institute for Environmental and Climate Research. The first five have already been officially accepted by the Royal Academy, the sixth one is in the pipeline in a combination with institutes from both Amsterdam universities and the University of Leiden. Most other institutes are also joint actions of two or three universities and several research institutes also cooperate.

And then the Mansholt institute came into being. Let me make myself clear: a late birth does not mean a backward child. Do remember that Benjamin was the most beloved child of his father Jacob. Social scientists simply think twice where other scientists have already jumped to conclusions. An understandable reaction when we realize that social sciences deal with the most complex system on earth: the human society.

The Mansholt Institute emphasizes in particular the Social Sciences relating to Agriculture and the Environment. The Institute is named after the late Sicco Mansholt,

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* Rector of the Wageningen Agricultural University.

former Minister of Agriculture of the Netherlands, former Commissioner of the European Committee and doctor honoris causa of this university. Dr Mansholt made major contributions to the development of agriculture in our country and in Europe. The choice of this name gives the hope that we may also expect major contributions from the Mansholt Institute. Research is certainly needed because, again, agriculture and the rural areas are subject to intense changes. The problems are dynamic and complex and therefore interdisciplinary analyses are needed. The Institute focuses on the organization of the production chain and on the factors that determine consumption. Sustainable development of agriculture within the natural environment is a particular point of interest.

A particular characteristic of the Mansholt Institute is its combination of economic, social, judicial, managerial and rural planning expertise. This makes it unique in the Netherlands. In that way it is also an excellent example of the scientific approach of our University in general: select your object and objectives and then study them in the most multi- and interdisciplinary way and do it successfully.

On behalf of the Executive Board of the Wageningen Agricultural University I wish the Institute all the best when they proceed along that road. We have high expectations and we know that those involved will not disappoint us.

CHAPTER 3

EUROPEAN RURAL DEVELOPMENT POLICY

L. van Depoele*

3.1 Strengths and weaknesses of rural areas

Rural areas which represent over 80 per cent of the territory of the E.U. and contain 25 per cent of its population, vary greatly throughout the European Union. It is not possible to give a precise definition of the characteristics of a rural area which will hold true in all cases. This diversity has been a handicap in establishing due recognition of the need for a rural development policy, and in formulating an appropriate approach, but paradoxically it is this very diversity which is one of the greatest strengths of rural areas. Their variations and specific characteristics provide opportunities which an effective rural development policy must identify and build upon.

The problem of rural development and the resulting decline in rural communities is well known and documented throughout the E.U. For many years now there has been a steady decline in the number of people employed in agriculture, which has led to increased unemployment, rural depopulation and the emigration of young people to find training or better jobs elsewhere. Other demographic problems such as the establishment of retirement communities or the rise of second home ownership, pushing out local young people from the housing market, can all have devastating effects on rural communities.

Lack of access to essential and support services is also often a problem for rural areas. Small communities may not have sufficient critical mass to support the facilities that we expect to be easily available at the end of the twentieth century. For example, once the number of children in a village falls below a certain threshold the school will be closed, and the settlement immediately becomes a much less attractive place for young families to live. Lack of appropriate infrastructure and transport facilities often increases the remoteness of rural areas.

However, whilst it is true that rural regions face some particular difficulties, they also have many positive characteristics, and we would be doing a grave disservice to rural communities if we did not recognise their strengths and valuable assets. First and foremost are the people themselves. Rural communities have traditionally had to be independent and able to provide for all their requirements, simply because of their remote situation and poor communications. This has resulted in people developing a wide range of skills and self-sufficiency, in addition to the development of the rich cultural heritage which is an important feature of many rural areas.

The natural environment, with its abundance of natural resources and open countryside is a valuable asset for rural communities. It not only provides an attractive place to live, but a direct source of employment for some, and an indirect source for many more. Many visitors to rural areas come because of the peace and beauty of the landscape, the

* Director of Rural Development I, European Commission, DG VI.

opportunities for leisure activities, or the chance to see and study wild birds, animals and plants. Production sites in a clean, unpolluted environment represent an advantage for many manufactured goods, from food to high-tech electronics.

Many rural areas within relatively easy reach of larger population centres have seen growth in population and prosperity over recent years, as professionals working in urban centres have chosen to live in country areas for lifestyle reasons, and to commute to work. Moves towards adopting the Polluter Pays Principle will increase the costs of travel considerably, through rises in the cost of fuel to reflect the environmental damage caused by vehicle emissions. It is therefore likely that commuting, especially the use of private cars, which are frequently the only available means of transport in rural areas, will decline dramatically. Thus the revival enjoyed by certain rural areas may be transient.

3.2 The principles of rural development policy

The purpose of EU rural development policy is to promote economic and social cohesion within the Union through assisting the socio-economic development of rural areas. This is in accordance with Article 130 A of the Treaty of Maastricht. No real Single Market, nor an Economic and Monetary Union, can function correctly when large disparities exist between the levels of development of the various regions.

Turning to the EU commitment to rural development in particular we may say that this policy is based on an increasing recognition and acceptance that whilst agriculture remains an important activity in rural areas, and obviously has major impacts on landscape and the fabric of the countryside, rural economies are diversifying, and other economic sectors are gaining in importance.

Although the Stresa Conference in general, and Sicco Mansholt in particular, did accord a role to agricultural structural policy and the development of rural areas, clear precedence was given initially to the creation of a common market in agriculture and thus to market and price policy. The first attempts to achieve a common structural policy were not made until the beginning of the seventies in the form of what are known as the socio-structural directives, although even these are modest in their ambitions and experienced considerable initial difficulties. In some countries they were implemented slowly and hesitantly.

In contrast to the market support measures, which are financed 100 per cent from the Community budget, the Community contributed only a certain percentage towards the financing of structural policy measures, in the seventies and early eighties normally 25 per cent. However, since the mid seventies the overall economic conditions have changed because of:

- a general economic crisis,
- unemployment,
- stagnation of agricultural incomes,
- growing surpluses,
- increases in expenditure,

- agrimonetary confusion,
- increasing environmental damage which drew the public's attention more and more towards the role played by agriculture,
- successive accessions.

Both market and price policy on the one hand and structural policy on the other has to be brought into line with these changes. The reforms needed to achieve this were tackled mainly from the second half of the eighties onwards, leading to the reform of the Structural Funds in 1988 and the reform of the Common Agricultural Policy in 1992. In structural policy there was a clear shift of emphasis from sectoral structural policy to the integrated development of rural areas.

The principle objective of EU rural policy is to maintain viable communities, thus we must consider all the aspects of rural life which form part of an integrated and sustainable rural economy which is capable of supporting the local population, not simply in financial terms, but also by ensuring the provision of all the other elements which contribute to 'quality of life'. Quality of life is much more than having enough money to live on, although this is obviously an essential baseline. Access to services such as healthcare and education, transport and information technology, the richness of the social and cultural environment, and the natural environment which is valued so highly by many of those who live in the countryside, all contribute to the overall welfare of individuals. It is through securing the welfare of the individuals who together form a community that the future for that community can be guaranteed.

In the evolution from the 1st (1989) to the 2nd (1993) reform of the Structural Funds the four basic principles of partnership, programming, concentration and additionality have been maintained and widened. The second phase (1994-99) places increased stress on widening the first principle of partnership to include social, community and voluntary bodies. Through programming the Commission is looking for coherence between the description of the regional situation, the objectives and the development strategy to be undertaken. The third principle is the concentration of the limited financial means in order to maximise the macro-economic results obtained. The fourth principle of additionality involves ensuring that EU funding is additional and not a substitute to national or regional sources of funds.

Mechanisms and means of EU structural policy are the regional programmes in Objective 1, in Objective 6 and Objective 5b areas, the horizontal actions (Objective 5a) and the Community Initiative Leader, as well as some other Community Initiatives such as Interreg, Regis ...

The total financial allocation for rural development under the 3 Structural Funds (EAGGF, ERDF, Social Fund) and the financial instrument for fisheries during the present period (1994-1999) may be estimated at 30 billion ECU.

3.3 Sustainable development and the environment

The report "The future of rural society" published in 1988 which set out the foundations of EU rural development policy stated that the objective to be pursued is not only that of speeding up economic development in the rural areas but also that of strengthened protection of the rural environment. In addition to the possibility of including measures specifically designed to promote environmental enhancement, all rural development programmes are required to take account of the environmental impact of proposed measures to avoid adverse environmental consequences. Environmental experts from both the Commission and the Member States participate in the development and negotiation of the EU's rural development programmes to ensure that the necessary conditions are respected.

Sustainable development is, as was defined in the BRUNTLAND report (1987), development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. One of the central principles of the EU's approach to rural development is to implement measures which will achieve sustainable development and secure the long-term future of rural communities without a continuing dependence on outside intervention. This means maximising the value of resources which are available locally, without diminishing the capital stock; that is, avoiding permanent damage by over-exploitation, protecting natural resources and the environment.

Rural development must take into account the management of natural resources in a global and holistic context. Inappropriate management of water, forests and open spaces can have severe consequences for the whole population, as shown by the recent cases of flooding and drought.

The approach of integrating environmental concerns into all areas of Union policy, consistent with Article 130s of the Treaty of the European Union which stipulates that "environmental protection requirements must be integrated into the definition and implementation of other Community policies", together with the commitment to Agenda 21, the global action plan for the 21st century produced at the 1992 Rio Conference on Environment and Development, which aims to ensure that development is socially, economically and environmentally sustainable, and our continuing work with the UN's Commission on Sustainable Development are a public expression of the Union's serious intent in this respect.

That farming makes a greater contribution to society than simply the production of food is recognised, and improving the links between provision of environmental and social benefits and economic returns must be a priority.

Agri-environmental measures accompanying the CAP reform have now been agreed with almost all Member States and are being implemented. The implementation and impact of these measures will be closely monitored, in order to make whatever modifications may prove necessary to ensure that the objectives of addressing market failure to provide environmental goods are met. It is a particular concern to avoid these measures being used as income support mechanisms without real environmental benefit.

An evaluation study will be launched to assess the real impact of these measures once a suitable methodology has been prepared.

Environmental protection is of necessity an issue which crosses national boundaries. It is important not simply to have intra-EU policy, but also to develop and encourage global cooperation in this respect. For example, flood protection requires coordinated effort along the whole course of rivers, and acid rain knows no political boundaries. Eastern Europe is particularly important in this respect, and programmes for rural environmental improvement and protection will be supported through greater involvement in the PHARE and TACIS programmes.

The greening of agriculture has already started and is unavoidable. The public at large is expecting more than food supplies from farmers. They are looking for quality products, regional products and green tourism.

3.4 The importance of rural services

The long term viability of rural communities depends not solely on economic activity, but also on many other factors which influence quality of life. The availability of scheduled public transport is frequently a cause of concern within sparsely populated rural areas where many services may be available only in the nearest town. Public transport is not only relevant to the local population directly, but also has other indirect effects on the local economy through its impact on the tourist industry.

The availability of a range of high quality business services affects not only the capacity of an area to attract new enterprises, but also the survival prospects and competitiveness of existing businesses. Good information channels (e.g. mail and telecommunications) are especially important in remote areas where physical movement of people may be difficult due to distance or poor infrastructure. In addition, the availability of these business services locally increase the multiplier effect of local business activity by reducing leakage to established centres of commerce.

The availability of financial services is often more restricted in rural areas as compared to urban centres. It is more difficult for small and micro-businesses, which make up a large proportion of rural businesses to gain access to credit, and where credit facilities are available, the rate of interest charged is often higher. Innovative ways of providing capital to rural businesses should be investigated, including mechanisms for sharing the burden of risk.

The local availability of basic health care services contributes to the attractiveness of an area as a place to live, thus affecting both outmigration by the young, and inward investment. In rural areas the provision of adequate veterinary services is also important for the local agricultural industry, and, for value added through food processing.

Education is vital both for local residents themselves, and to ensure the competitiveness of local industries through the availability of well-qualified personnel. A highly skilled workforce not only attracts inward investment, but also helps to ensure that

newly created jobs are filled by local people, contributing to the stability of the local community.

3.5 Rural employment

If, as I said earlier our main objective is to sustain and create viable rural communities then in line with the overall emphasis on employment creation with the EU, rural development policy must seek to maintain employment levels and to exploit opportunities to generate new jobs. The continuing decline in agricultural employment makes this an even more important objective for rural areas. This highlights the need for special efforts to counter the employment problems experienced by rural regions. A recent study showed that total rural employment remained stable or increased between 1980 and 1990, in spite of the losses within agriculture, demonstrating the strong growth that occurred within other sectors of the rural economy, often at an equivalent rate to urban regions. However, the most rural and remote regions, with the highest dependence on agriculture, lagged behind in employment creation, and appear to present the most severe problems for job creation.

Furthermore, there is some research evidence that suggests that the public cost of job creation tends to be somewhat lower in rural areas than in urban areas. It seems to require less capital investment to generate the same amount of additional employment, a finding which favours generating jobs in rural areas.

Examination of the sectoral distribution of employment between urban and rural areas shows that both agriculture and industry account for a higher proportion of employment in rural areas than in urban areas. It is effectively the service sector which accounts for a considerably lower proportion of employment within rural areas. It is the service sector therefore that we should now concentrate on for the creation of employment in rural communities.

On the basis of the ex-ante evaluations of the 5b programmes for the period 1994-1999 we could make a prudent estimate that through these $\pm$ 80 regional programmes 4 to 500.000 jobs may be maintained or created.

3.6 Enlargement of the EU

In the context of the potential enlargement of the EU, both towards the east and towards Malta and Cyprus, the implications for current EU rural development policy, as well as the needs of the prospective new Member States, have to be considered.

The economies in transition in general suffer from poor infrastructure, particularly soft infrastructure, and a lack of organisational and support structures at local level. Many rural areas are rich in natural resources and possess great potential for primary production, but are not orientated towards market production. It will be necessary to introduce programmes to encourage entrepreneurship, adaptation to operating under

market conditions, training and assistance in management and marketing, and support for the production and promotion of quality products.

Rural development has been an implicit objective of the PHARE programme since its inception in 1990 and PHARE has financed a series of projects in eastern Europe particularly in Poland, Hungary and Albania which have had a significant impact on the development of rural areas. In the future PHARE rural development activities may be formulated along similar lines to the regional rural development programmes within the current EU Member States, where experience has shown that integrated programmes rather than a series of unconnected projects have greater success in helping to build a healthy and sustainable rural economy.

3.7 Research

It would be inappropriate for me not to make a reference here today before this audience in this famous Wageningen Agricultural University to the importance of research and development.

Whereas currently rural development research is included as one of a range of subjects which can be financed through a research programme such as AGRIFISH, dealing with agriculture, forestry and fisheries, in future it is also proposed to devote more resources to socio-economic research in rural development. Measures to raise awareness and utilisation of relevant research results, increase funding for rural development research and to forge close links between researchers and policy-makers will in my opinion improve the effectiveness and quality of EU rural policy.

3.8 Conclusions

1. Every rural area has both weaknesses and strengths. The strengths include their diversity, their human capital, the natural environment and their traditions, culture and heritage, whilst weaknesses affecting many rural areas include depopulation, a decline in agricultural activity, the lack of services, peripherality and remoteness. It is important both to maximise the opportunities and to work to overcome the weaknesses. An approach which takes account of all factors provides the best chance of achieving the full potential of any region.
2. Rural development policy is multi-sectoral, and follows an integrated approach covering the whole of rural society, which sets it apart from purely sectoral public interventions. The principles of EU rural development policy are to sustain viable rural communities, through support for measures which increase the quality of life of the rural population such as diversification of the rural economy, pluriactivity of farmers, provision of services and overcoming barriers to development, both social and economic.

3. The concept of EU rural development policy as a development policy and not a compensation policy must be strengthened. That said, however, the trap of believing that it is possible to redress all handicaps and to foster sufficient development activity in all rural areas, to eliminate all inequalities, must be avoided. That would be a naive and false utopian view, and the realities of operating in a market environment must be recognised.
4. EU rural policy must develop an increasingly integrated approach to natural resource management.
5. The scope for assistance for rural service provision, in order to support the development of rural communities which meet the needs and aspirations of their inhabitants should be increased.
6. Rural development policy must seek to maintain employment levels and to exploit opportunities to create new jobs. It is necessary to target the creation of quality high-skill employment within rural areas, and the proposed emphasis on supporting micro-businesses, innovative provision of rural services and the adoption of new technology should help to achieve this aim.
7. Policy initiatives must ensure equality of opportunity for men and women. The most effective approach is to ensure that mainstream activities are equally accessible to both women and men.
8. With regard to rural development activities in Central and Eastern Europe, in future, PHARE assistance will pay increasing attention to the introduction of territorial development concepts and policies for targeted areas.
9. Appropriate funding for rural development research and forging close links between researchers and policy-makers should be aimed at.

What is at stake is not only a question of production of agricultural goods in rural areas but also of ecological, cultural and intellectual values. May this Institute and the Graduate School contribute through its research to the finding of appropriate solutions to the challenges we are confronted with in the light of the next century.

CHAPTER 4

POTENTIAL CONTRIBUTION OF THE INTERNATIONAL RESEARCH COMMUNITY TO THE AGRICULTURAL DEVELOPMENT OF EAST EUROPEAN COUNTRIES

M. Petit*

4.1 Introduction

The main message of this paper is very simple: Agricultural research and education in Eastern and Central Europe are in a very serious crisis, and action is urgently needed. The paper addresses two questions: Can the international community be of help? and if the answer to this first question is positive, how can it be done? In order to answer these questions, it is necessary to analyze first the nature of the crisis faced by agricultural research and education in the region, and on that basis to suggest what changes are needed. It will then be possible to assess what the international community can do. We will see that the key problems relate to institutional and human developments. These only have impacts in the long term, which explains why governments and outside agencies have not given to this issue the importance which, we believe, is warranted. On the basis of this judgment, it is possible to suggest an area in which the international community can help through helping the development of the appropriate skills and the sharing of experience, particularly regarding the development of institutions. For instance, I am very pleased to give this paper for the inauguration of the Mansholt Institute at Wageningen because I feel the creation of this graduate school constitutes a very interesting institutional change of this great university. I understand that the change is probably difficult in many respects, and why participants may be apprehensive. But precisely that experience of a difficult institutional change to adapt to new circumstances is what is directly relevant for Eastern and Central Europe. Admittedly no institution can be directly copied from one country to another, but any experience of a difficult institutional change carries lessons of broad ranging interest.

With this background, the outline of this paper is straightforward. We will first present our analysis of the situation in Eastern and Central Europe. Then, in a second part, we will discuss what changes are needed. Finally, we will present what help the international community can offer to bring about those desirable changes.

4.2 Situation in Eastern and Central Europe

It should be first stated here that the main source of information for this section is a rich set of contacts and discussions within the Bank and with colleagues of the region. As a

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result, it should be clear that my judgment has been mainly shaped by much anecdotal evidence. In addition, I have benefited from several studies of the agricultural research and education sector in several countries of the region conducted by colleagues in the World Bank. Because of the weight of anecdotal evidence, no quantitative data will be given in this paper. Thus this section must be seen as the synthetic judgment of an attentive observer, who is not a specialist of the region. With these limitations in mind, it is however obvious that agricultural research and education in the region are going through a profound crisis. This crisis is the result of very constraining limitations on available funding and of major difficulties in adapting to a radically changing environment. A major dimension of the crisis today is that it has not received much attention because it has not been seen as urgent. Other problems were seen as more important, requiring priority attention. The result is that several years after major institutional changes have begun in that region, nothing significant has been done to bring about the needed reforms in agricultural research and education.

The limitations due to funding restrictions are obvious to everybody. They manifest themselves by the lack of resources to fund the recurrent costs needed to undertake even the most basic activities in research and education. Thus for instance, funds are lacking to undertake experiments, to maintain buildings and genetic collection, to buy books and literature. So indeed that obvious constraint should be of serious concern. The funding crisis impacts also the level of the salaries of the research and teaching staff. Usually salaries have not kept up at all with the very rapid inflation which has prevailed in many of these countries. As a result, researchers and teachers are forced to seek extra income. Many of them have multiple jobs, sometimes teaching in two or three institutions, concentrating only on giving lectures and therefore not giving their students or their research activity the necessary attention. In order to overcome that crisis, several institutions, or sometimes individuals, have begun to launch commercial endeavors, such as selling their services as consultants, or experimental farms getting involved in commercial agricultural production. An anecdote reported to me by a Director of a research institute based in Moscow, who decided to buy potatoes with institute resources so that his staff could be fed through the winter, illustrates the difficult situation and explains the extent and pressure on managers to launch commercial endeavors. Obviously such efforts can and do become major impediments to a normal research and teaching activity.

But funding restrictions, however very clear and serious manifestations of the crisis they may be, reflect deeper problems, stemming from the great difficulty for the research and education system to adapt to a radically changing environment. To illustrate these difficulties, I have chosen to concentrate on three challenges faced by that establishment. The first challenge is of course the need to adapt to a very rapidly changing agricultural production structure. Privatization of land is taking place at very uneven pace but it is clear that the old structure of collective and state farms is subjected everywhere to profound transformations, with the emergence of new, perhaps transitory but certainly long-lasting smaller and very diverse collective units of one form or another. As a result the final evolution is seldom clear, and this of course is the source of a major challenge.

In most countries, however, the production units, whatever their form, must produce more and be more integrated in the market economy for the supply of inputs, and the marketing of their output. Their needs for new technologies and new practices are quite different from what they were under a control and command economy. The challenge for the research and education establishment is to adapt itself so that it can serve those very rapidly changing needs.

The second challenge results from one of the needs just discussed. Given the new circumstances, economic management expertise is badly lacking. Operating in a market economy is very different than responding to planning orders. This requires the acquisition of new expertise, through skill acquisitions and experience. Obviously, very little expertise is available in this domain within the research and education system. For skill training, some efforts have begun, but my sense is that they are not up to the challenge faced by the research and education system.

The third challenge has to do with the needed internal change within research and education institutions from a program that was essentially supply-driven, relying on the staff scientific expertise and a very strong belief in the primacy of science, to programs which respond to needs and which have to be demand-driven. Thus one can see that responding to the challenges will be very difficult; and it is indeed preoccupying that little attention has been given so far to the need to change. In order to help in this process, it is necessary to analyze more precisely what changes are needed.

4.3 Changes needed

Funding restrictions have to be overcome. This can only be done through a combination of more public funds and a greater share of cost recovery. The former is needed because agricultural research and education provide services which are essentially of a public good nature. Obviously the private sector has an important role to play in research and, to a lesser extent, in education. But its contribution will only be able to supplement public funding which must remain important even if the delivery of some public services can be privatized. Increasing public funding to research and education is difficult because of the state of public finance, but also because policy-makers and public opinion are not convinced of the urgency of the problem. As a result the sector faces a vicious circle. Because it does not appear as productive and effective, it is not an effective candidate for investing scarce public funds. But with limited public funds, the sector cannot be effective. And if it is not effective, it does not attract public support. In this context, cost recovery, although always difficult, is a necessity. Research organizations must be able to sell some services and advice to individual farmers, to farm organizations, to extension services, and to other clients. In other words clients have to be willing to pay, a difficult condition in any circumstance. The rapid and uncertain change in the production sector taking place in the region does not facilitate farsighted investments in human capital on the part of those potential clients of research. In addition, as discussed above and as

exemplified in the case of China, excessive commercialization can be detrimental to the quality of research.

To recover costs, teaching institutions must be able to charge fees to their students. This is indispensable because there is no way to provide appropriate funding from public sources, for those functions to be performed satisfactorily. But this entails radical changes in behavior. I understand, for instance, that in Poland the Constitution stipulates that superior education is free and therefore cost recovery is impossible without a change in the Constitution. Also students are poor and cannot afford to pay tuition fees. I also understand the psychological and political difficulties of bringing this about. Today students in France, my own country, are in the streets because they claim that the government is not providing sufficient resources to their Universities, and they are themselves opposed to increased tuition fees, which are however quite modest.

Because of the great difficulty to solve the funding problem, there is no doubt that very significant institutional retrenchment is needed. The institutions are probably too numerous, too large with too many ineffective staff. A smaller and leaner institutional system would be more effective. But of course institutional retrenchment is a difficult change, requiring significant lay-offs of personnel and major retooling of the personnel which will be kept. This need for retraining staff is more evident if one takes also into account the fact that institutional reforms, in addition to retrenchment, are needed. Major changes are needed in the existing structure of academies of agricultural sciences, having many specialized research institutions and practically no contact with universities and other teaching institutions. Other features which will require major changes include the large number of specialized teaching institutions, the limited development of extension services, the limited linkages with the emerging agricultural services be they private or public. All of this calls for very significant institutional changes. In this context, the US Land Grant University model is certainly at least a useful source of inspiration, if not a model to be proposed. The attractive feature of Land Grant Universities is the integration of research, education and extension activities which they achieve. These are closely complementary, yet experience in many countries demonstrates the great difficulty of ensuring proper linkages between those activities when each one is undertaken by a specific institution. The driving force uniting those three sets of activities in the US model is the pragmatic philosophy which presided to their establishment in the nineteenth century, and equipped them well to serve the development needs of the agricultural sector. This is precisely a characteristic, which is badly needed by the agricultural research and education system in Eastern and Central Europe. Obviously, the international community should be able to help in the use of this institutional model as a reference in the region.

4.4 Potential contribution from the International Community

In the domain of international research, it is necessary to take into account the fact that the situation is changing very rapidly, leading to what we call the emergence of a global

agricultural research system. We will first discuss this international context, before presenting possible interventions by the international research community in Central and Eastern Europe.

The Context: Emergence of a Global Agricultural Research System

The emergence of a new global system results from powerful trends in at least four dimensions. First, in developing countries, the number of agricultural scientists has increased manifold in the last decades. Today even small countries in Africa have at least one hundred trained agricultural researchers. It is true that too often those researchers are not fully utilized and are not very effective because of the weaknesses of the institutions in which they work and of the limited resources which they have at their disposal. But they, themselves, represent an important human resource which needs to be mobilized and better integrated in the global research system. Other actors, such as for instance the international agricultural research centers, cannot and should not ignore them. This requires a profound transformation of existing partnerships which is indeed beginning. The second major trend is of course the explosion of knowledge in biology. A true scientific revolution has taken place in recent decades. The challenge for agricultural research is to harness the advances and potential contributions stemming from this scientific revolution. And this also leads to the need for more numerous and more diverse partnerships, particularly with research teams involved in more fundamental research in biology. The third trend is the extension of the research domain. At the time of the green revolution, the emphasis was on increasing production through increases in yields per ha. Today that concern remains important but, in addition, research on the proper management of natural resources has become an imperative. The broadening research agenda also leads to the necessity to forge new partnerships, in this case particularly with resource users and their collective organizations, because many problems of natural resource management require collective action. Involving resource users in resource management research is necessary because many of the problems and the solutions are very site specific, even if there are concepts, methods, and principles, which are of general application. Resource users are the most knowledgeable about the specific circumstances of their site. But the broadening of the research agenda is another cause for the multiplication of collaboration and partnership with a whole new set of actors. Finally, in OECD countries, specialized agricultural research institutions dealing with tropical agriculture are going through a profound financial and identity crisis, leading to rapid transformations.

The result of these trends is that we observe a massive redistribution of roles in international agricultural research and a multiplication of new, deeper, and more diversified partnerships. Many of these are permitted by the ability to work in networks, facilitated by the rapid development of information technology particularly through electronic mail, access to data bases and ability to mobilize larger ones. This leads to a situation which is rapidly evolving, and which is extremely competitive. As a result, those who are not well plugged in will very much be left out. To summarize, the components of the new system include many traditional research institutions in developing countries,

but also the universities and other institutions having intellectual capacity, some NGOs in particular. The private sector is playing a growing role. This is particularly the case for several multi-national corporations which have invested large amounts of money in biotechnology and have become major producers of new advanced technologies for agriculture. Advanced research institutions in the North and in the South play also a growing role. And of course the international centers of the CGIAR continue to play a key role, even if they control only a small fraction of the total resources devoted to agricultural research for developing countries.

The implications for Eastern and Central Europe of these developments are very important because individual researchers and even more so research institutions of this region have been largely isolated from the international scene. As a result they are not familiar with it, and they are poorly aware of the very rapid changes which are taking place. Yet, there is no doubt that to pursue their activities, they must become full-fledged members of that international community. They must also find their niche in it and this of course is quite a challenge. Given this context, what can the international community do to help?

Possible Interventions

So far the interventions of the international community can be presented as ad-hoc, partial fixes. Training activities have been launched and have promoted the acquisition of skills particularly in economic management for actors in a market economy, and this clearly has been useful. In addition, joint research projects have been undertaken with teams from Western countries and this has been the source of some funding for recurrent costs. But such partial solutions have obvious limitations. In addition they may have contributed to the complacency among governments and outside aid agencies, differing the real recognition of the need for profound reforms and of course delaying their implementation. It would be much better if the international community could help in a program of comprehensive reforms. Obviously my own agency, the World Bank, is well placed for such a contribution because of its access to policy-makers at all levels of decision and because of its interventions in several sectors, particularly all aspects of the agricultural sector. But I am aware of the reservations in many bilateral agencies to let the World Bank take the lead. Also government officials in the region do not believe that they need to borrow money from the World Bank to support their agricultural research and education, if they can get outside assistance in the form of grants. Obviously they do not see the urgency of global reforms. In addition, even if they were aware of that urgency, we must recognize that these reforms are difficult. They would require a very strong domestic political commitment which cannot be brought about unless public opinion is convinced of the urgency and necessity of the problem. The institutional changes which are required are profound and therefore will be resisted by the staff working in the research and education institutions. Yet these staff are probably the most aware of the problems of the *sector* and unless the political process of the reform is handled carefully, those staff will be in the opposition. Of course there are also very serious public finance issues to be resolved because public resources are scarce and many needs are pressing. In

conclusion, in spite of these difficulties, there is no doubt in my mind that the issue is important, the lack of awareness and of any sense of urgency is probably the obstacle which has to be overcome first. Obviously the future of agriculture in the Central European countries, which prepare themselves to enter the European Union, will be quite different from that of the countries of the former Soviet Union. But in both cases increasing agricultural productivity is absolutely necessary to bring about agricultural and economic growth. There will not be any sustainable increase in agricultural productivity unless the research and education system is performing well and that will not happen unless the profound changes which have been advocated in this paper are brought about.

CHAPTER 5

FROM AGRICULTURAL POLICY TOWARDS A POLICY FOR RURAL AREAS

L. Albrechts*

5.1 Introduction

One could argue that Europe is confronted with the negative impacts of its own successful agricultural policy. Successful in terms that the initial goals set in the Treaty of Rome have been reached to a large extent: the food supply is guaranteed and from a net-importer of food Europe became a net-exporter. The success confronted Europe with food mountains, overspending and a growing nuisance for the environment. Apparently more agricultural land will be taken out of use resulting in a less dominant position of agriculture in rural areas. The actual changes in rural areas are extremely important.

Competitiveness of current concentration areas of pig and poultry farming is endangered by problems with manure surpluses. Agricultural competition is international and largely determined by the Common Agricultural Policy. The E.U. might be the best place to look for solutions. Expanding urbanization has been at the expense - in many places - of rural areas and their natural and scenic value. Attractive and varied landscapes in particular will attract new inhabitants, tourists and firms as well. Western Europe still has a variety of landscapes and more or less natural areas. This variety is called spatial diversity. Functional changes in Western Europe are reducing the number of different landscapes. A comprehensive and integrative policy is therefore a first requirement for the rural areas of much of West-Europe. The overall objective must be for organising rural development based on a model of sustainable development. This calls for a strengthening of cooperation on spatial planning. Spatial strategies should be directed at realising the specific comparative advantages of different areas, at promoting development and ensuring equity. Hence the tendency to move from an agricultural policy towards a policy for rural areas.

This paper reflects from a planning point of view on rural areas. Therefore it elaborates on problems and challenges for rural areas, on the type of planning and the specific approach and on the two basic attitudes (sustainability and subsidiarity) that are suited to tackle the problems and respond to the challenges. This view and this approach is confronted with the emerging European planning.

Although this paper focuses on rural areas it in no way argues for a separation of urban and rural areas. On the contrary, rural and urban areas are intimately interconnected components of one spatial reality. Hence the need for an integrated spatial policy. Moreover, a sensible urbanization policy is a first requirement for the protection and for making full use of the potentialities of the rural areas.

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5.2 Problems and challenges

Old certainties, based upon a clear distinction between the urban and the rural no longer hold. The rural areas are integrated in a wider spatial context. The ongoing restructuring of the global mode of organization of most western societies as well as its quite dramatic impact on the production and reproduction of spatial inequalities, the enlargement of the European Community, the move of Eastern Europe and the former U.S.S.R. from a command economy to a market economy, lead to the formation of new international relations which involve quantitative and qualitative modifications of the spatial structure of Europe with specific consideration of the issues related to transportation, environment, urban areas, rural areas... This restructuring could lead to the relocation of some agricultural production to third (Eastern European?) countries. Such a development may be the result of environmental constraints or a search for external markets.

Rural is best regarded as the outcome of a variety of economic, cultural, social, political and spatial processes. These processes are reflected in contrasting developments and a growing diversity of rural areas. Technological change and the globalisation of economic activities on a European (see the Common Agricultural Policy and the completion of the Single Market) and even on a world scale (see GATT-negotiations) constitute the realm of rural planning practice. If (rural) planning is ever going to be effective, it will have to interfere purposefully with the determinants of these structural macro-developments.

There are significant differences between the process of development in those rural areas which are continuing to lose population and in some cases are under threat of becoming deserted and those areas close to large cities which are generally subject to strong dynamic forces (urbanization, tourist activities...).

An essential feature of rural development is (usually) a change in land use, one which (often) influences the economic, political, socio-cultural and spatial relations surrounding particular pieces of land. The discrete social demands and the tendency for capital to become 'fixed' in land, have produced a series of segmented land development markets oriented towards different sectors of production and consumption. The key rural land-development processes are constituted within the following markets: agriculture, forestry, industry, housing, leisure. The relationships between these sectors are constantly changing. For instance in the current period the interests of agriculture no longer occupy an unquestioned leading position as they have done over much of the countryside during the post-war period. There are growing and more widespread pressures for the conversion of farmland to other uses, bringing agricultural land into the decision-making process of the planning system (Murdoch & Marsden, 1994).

There is little reason to expect that the developments as witnessed in the past decades will stop. In addition to the ongoing loss of rural areas to urbanization, agricultural developments (scaling-up, intensification...) nourish the fear that increasingly larger areas will be dominated by one or several crops, that small-scale landscapes will virtually disappear and that the environment will continually degrade by manure surpluses and intensive use of pesticides and fertilizers.

These developments also provide challenges and opportunities for rural spatial policy. An integrated spatial strategy will be necessary for rural areas.

5.3 What type of planning?

There are different areas of innovation in planning (1) thought and practice responding to the above mentioned problems and challenges. Six significant characteristics of planning are discussed below. They are by no means universally accepted but are increasingly being seen as key issues in planning thought and practice. Indeed if planning wants to play a (major) role in the next decade, then planning has to be at once integrative in its approach, European in its orientation, political in its attitude towards (traditionally unchallenged) power structures, normative in purpose, innovative in its search for solutions and entrepreneurial in scope.

Integrative in its approach
The distinctive contribution of spatial planning is to interlink social, economic. environmental... dimensions of issues to do with changes in urban and rural areas. The whole is more than the sum of its parts. Therefore there is a need for a thread that binds the components together, a substantial frame of reference that allows to deal with often contradictory sectoral demands. This makes planning a discipline in its own right. Using planning as an integrative mechanism is one of the strongholds of the planning discipline and must be strengthened.

European in its orientation
The process of internationalization of regional economics and the creation of politico-economic 'leitbilder' such as the Single European Market accelerate the internationalization process. These processes produce new patterns of advantage and disadvantage among European urban and rural areas. More and more problems have an international dimension and can only be tackled at a supra-national (often European) level. A knowledge of the international forces which cause, influence or determine the process of internationalization is thus essential for planners working at local, regional or national levels of government or in the private sector, in international consultancy or development. In the future (rural) planners in Europe, even those working exclusively at a local level, will have to relate local policies and development problems to international development and prospects.

Political in its attitude
Planning is not an abstract analytical concept but a concrete socio-historical practice, which is indivisibly part of social reality. The planner lives in a political world whose characteristics are often at odds with the planner's ideology of reason. The planner him or herself is affected by the structural processes that shape social reality.

Especially in the eighties some planning professionals, academics and many politicians defended the thesis that planning cannot and may not intervene in the process of economic development, assuming that the economic factors (capital, labour, management) tend to develop either spontaneously or via the mediation of limited state intervention toward an optimal state of affairs.

Holding the view that economic processes shape to a large extent the socio-economic, spatial fabric, there isn't any legitimate reason to support that planning actions which do not interfere with the very conditions that determine the existing patterns can restructure that socio-economic pattern. Since planning, in my view, is primordially aimed at inducing structural changes, the planner's political role comprises a contribution not only to the substantiation of these changes but also to the mobilisation of the social forces necessary to realize proposed policies. In this respect, the planner could act as mobiliser and initiator of change and, simultaneously perform the function of a catalyst around which a number of initiatives and processes of change can germinate and gain momentum. Besides lobbying and negotiation the active search for the necessary support (including building alliances) and means to realise the various projects constitutes a major planning task.

Normative in purpose

Structural change implies putting forward an image of the state of the planning object which is more desirable than its present state.

The normative orientation of planning reflects the capacity to be involved, to take part in the creation of a future for society. At the same time this orientation recalls clearly the enormous responsibility of society to take actively part in the construction of its own future. This future transcends more feasibility and results from judgments and choices formed with reference to the ideas of 'desirable' and 'betterment'. The point of planning becomes to change the present to fit the image for a 'desirable' future rather than to project its present into a conception of the future which is derived from the logical vectors that happened to inhere to it.

The failure of planning to keep its promises reflected in these images a.o. to guarantee a more balanced growth pattern, a more equal distribution of welfare, a more democratic society... provoked major discontent. Very soon critical questions were raised concerned the gap between this approach and the actual (political-economical) functioning of society. It is clear that one has to avoid the rather naive, utopian and unsuccessful way some of these concepts were implemented in the past (mainly the sixties and early seventies) and that one must take full advantage of the criticism that was formulated and the evolution planning went through in the seventies and eighties.

Innovative in searching for solutions

The planner needs the skill, the innovative and creative ability to design certain social choices as an answer to problems and challenges posed. He or she has to be able to embody these choices in a coherent proposal within a given social structure and to evaluate the repercussions of the projects on a number of related domains and on society

as a whole. A design oriented approach seems appropriate in this respect. Design not only in its traditional meaning but also in terms of the design of alternative configurations, that somehow possess reality and represent a structural and creative solution to the problems.

Entrepreneurial in scope

Since planning is becoming increasingly action-oriented, other skills and qualifications will play a key role in the planners professional toolkit. Planning has to think about implementing strategies right from the beginning. Without the orientation towards implementation planning becomes meaningless. Traditional planning practice has hardly any possibilities to concretise this action oriented strategy. Indeed the technical skills, as well as the power to allocate sufficient means to implement proposed actions, are usually spread over a number of diverse sectors and departments making a more integrated approach a somewhat difficult task. Moreover one has to acknowledge that the public sector does not have the resources to implement all actions, and that anyway, other actors may be better placed to work out what is needed. Nevertheless the planner must and can play an active and important role in this regard. In the entrepreneurial approach planning and the planner intervene more directly in the social fabric. This implies negotiation with all the parties involved taking into account existing power structures between and within social groups. The planner can act as a bridge a.o. between public and private domains, between knowledge and action. Furthermore the planner can establish contacts between firms, financial sources, knowledge centres and the people.

From this perspective planning could provide context and focus for ethical issues, social justice, development processes, regeneration and strategies for sustainable development.

5.4 New approach

A feasible and efficient rural policy should be centred on the elaboration of a mutually beneficial dialectic between top-down structural developments and bottom-up local uniqueness. Besides a bottom-up approach, rooted in local conditions and potentialities (interpreted in their broadest sense), a complementary top-down policy aimed at inducing fundamental and structural changes is indispensable. Indeed, a mere top-down and centrally organised planning system runs the danger to overshoot the local, historically evolved and accumulated knowledge and qualification potential (Goorden, 1982) while a unidimensional emphasis on a bottom-up approach tends to deny - or at least to underestimate - the importance of linking local conditions with macro-tendencies.

Top-down approach

The top-down approach has to be aimed at structural macro-changes including the planning and orientation of investment decisions as well as the implementation of redistribution programmes in order to reduce the negative consequences of unequal development.

If investments were to be purposefully directed along carefully designed development paths, rural planning could have considerable positive effects. It is of course clear that most advanced and open economies, which are highly integrated in the overall global system, are very much dependent on and subordinated to international cycles and shifting investment patterns. The latter pretty much escape the influence and powers of the nation-state. Therefore a European approach is most appropriate.

The far-reaching division and political compartmentalisation of the various policy domains that intervene in rural development issues constitute major obstacles for coherent investment planning. Spatial-rural policy cannot be isolated as an independent and self-contained public decision area.

Towards an integrated spatial strategy at a European level

Rural and urban areas are intimately interconnected components of one spatial reality.
Hence the need for an integrated spatial strategy. Spatial strategies are needed at different levels.
Arguments for a European spatial strategy are:

- to ensure the coherence and complementarity of the Member States' spatial development strategies;
- the supply of supra-national infrastructures (High Speed train networks, European road network, main energy networks...);
- to reach a better mutual tuning and coordination of the spatial aspects of sectoral policies (agriculture, transport, environment...);
- to meet unintentional and unwished for spatial consequences of community policies;
- to cope with the growing competition between European regions/cities/rural areas;
- to provide a broader setting for border regions...

The realisation of an effective and feasible European spatial strategy is subject to some specific conditions.

- On a European level, only those issues may be integrated that can be adequately addressed and controlled by a European spatial strategy. The European spatial strategy constitutes the integration frame for the various national strategies and the various sectoral strategies.
- Every type of planning has to be action-oriented. Financial implications should be considered at an early stage of the decision-making process, guaranteeing the availability of sufficient means. Approval by Europe has indeed to ensure that the various D.G.'s in charge of implementation effectively incorporate the necessary financial means in their budgets.

From agricultural policy towards a policy for rural areas

As agriculture was dominant in rural areas it had (has?) an interest in and pursued (pursues?) practices which seek to sustain and reproduce that dominance (see Cooke, 1985).

As a result of the Common Agricultural Policy and the GATT-negotiations, more agricultural land will be taken out of use resulting in fewer farmers and in more land becoming available for other purposes (nature, leisure, housing, industry, etc.). The important functional changes taking place in the rural areas constitute a clear source of conflict. It is therefore important to examine the territorial impacts of these changes on rural areas. New developments also provide great opportunities for a policy that focuses on using the potentialities and on improving the quality of rural areas. Hence an integrated spatial strategy will be necessary for rural areas.

We explicitly defend a strategy by which an overall budget is allocated to rural areas as a lump sum. Such an approach may, indeed, enable a more optimal and efficient decision-making process for the appropriate authorities, and development agencies will be urged to accept a more active responsibility for designing their own future, demanding clear priorities and a more purposeful use of social funds. Moreover, this bundling of investment efforts will result in a supplemental development effect. A basic condition for this approach is reaching a collective (spatial) agreement (2) between all actors involved in the planning process including those who finally are responsible for the implementation of the strategy.

Socio-spatial redistribution programmes

Unequal development is the result of an historical process which, through a series of consecutive phases, produced and reproduced existing inequalities while creating new ones. More balanced spatial development dynamics can only be successful if, at the same time, the structural conditions determining uneven development are changed as well as policies being implemented to reduce or eliminate the problems created by the historical accumulation of unequal development (in terms of limited social infrastructure, structural un- and under-employment, insufficient collective consumption apparatus, etc.). Social redistribution programmes are indispensable to cope with these historico-structural problems.

The emergence of the welfare state, aiming to ensure basic human rights with respect to employment, housing and resources, was accompanied by an ever-expanding public sector which actually based its policies on national criteria. The resulting capital flows were definitely the consequence of structural disparities between localities, but were not inspired by the goals of rural policy. The reorientation of redistribution programmes as a function of rural objectives and taking into account the structural nature of inequalities would at least reduce the negative ramifications of uneven development. It is not only the latter effects which are important but, moreover, the improvement of redistribution flows may lead to the creation of a more receptive and balanced production milieu.

Current neo-conservative politics, however, have tended to transform the post-war regulatory Keynesian state into a corporate state. Besides stimulating private entrepreneurial dynamics, the state increasingly retreats from global socialised welfare programmes as well as from direct investments in or indirect subsidies to economic activities. This deregulation of the post-war welfare state equally affects the spatial allocation of public resources as a result of the shifting implicit spatial redistribution

inherent in this kind of welfare programme. This re-orientation, then, of public spending patterns, has dramatic ramifications for rural areas. Explicit redistribution mechanisms in rural areas become even more urgent in the light of the recent reforms of the Common Agricultural Policy. In this Common Agricultural Policy (1992) there is a shift towards an integrated development of rural areas. The structural funds provide means and instruments for a rural development policy (mainly objective 1, 5b and 6 regions).

Bottom-up approach

The top-down approach has to be linked with the uniqueness of the local production milieu. Experiences from the past have, indeed, demonstrated the inadequacy of mere top-down actions which did not take into account local signals, while, in turn, localised bottom-up initiatives proved to be hardly viable in the absence of an institutional framework, removing or changing structural barriers (Murray, 1986). In other words, 'localist' policies are doomed to fail or, at best, to have only marginal effects if they are not aligned with an attuned European, national, regional, urban, rural policy. The current resurgence of so-called 'locality' studies and the search for a new local policy proclaimed by many urban and rural planners and researchers seems to be rather the result of the political and ideological inability to intervene at the national or international level than of a belief in the social effectiveness of local policies.

Bottom-up strategies (see Friedmann and Weaver, 1978; Stöhr and Taylor, 1981) unanimously refer to the importance of reinforcing so-called 'endogenous potentialities'. However, the translation of this concept into concretely applicable criteria poses severe problems. In any case, endogenous potentialities comprise infrastructure, educational and qualification levels of the workforce, demographic characteristics, natural resources, agricultural and industrial patterns and tradition as well as the existence of specific activity bundles. The latter may constitute a nucleus to create a multitude of intimately interwoven relationships. A bottom-up approach, based upon and oriented towards reinforcing endogenous potentialities, will have to pay attention to the establishment and encouragement of such linkages. Indeed, spatial clustering and integration of activities can only have a chance to succeed if the local production milieu comprises sufficient potentialities and qualities to achieve such a 'seedbed' effect. In this regard, the role and policies of development authorities seem to be really crucial.

The Community Leader initiative has enabled locally based approaches to rural development to be tried out.

Strategic rural projects as a synthesis of top-down and bottom-up approach

Rural problems cannot and may not be reduced to separate problems of agriculture, housing, nature, leisure, employment, transport... All these problems are interconnected. Their solution can only be found within an integrated spatial policy based on a coherent and clear vision of the rural area and its potentials. This does not imply that all problems have to be tackled at once. It implies that solutions and proposals for each problem have to fit with a global vision on the rural area.

Planning is considered to be a government activity. The government has to trace the main lines of development. Within these main lines strategic rural projects may be used as a corner stone for rural policy. Strategic rural projects are selective and specific. These projects are innovative by itself and serve as an indicator (warning function) for other parts of the rural area. Basic characteristics of strategic rural projects are:

- the projects are structural for the rural area;
- the projects have a functional, spatial, administrative, institutional complexity;
- their complexity exceeds the reach of local governments and sectoral departments;
- the implementation of the projects serves as a model;
- the projects have a comprehensive character (economic, social, spatial...) that gives a surplus value to the rural area.

The efficiency and transparency of the actions related to strategic rural projects require that all actors at relevant levels as well as the sectoral private and public partners should be associated in an open and constructive manner.

5.5 Basic attitudes

Sustainability

Sustainable development is at one and the same time a new idea that has captured the wider political imagination by articulating a concern with the effectiveness of environmental management but also a very old philosophical concept which relates to the stewardship of resources, communal responsibilities and the principles of (social) justice. Sustainable development always starts from the actual situation, existing power structures and changes in the past causing this actual situation and creates the future as a new possibility without laying it down in a utopian way. Each change that wipes out the past and appropriates the future consumes possibilities but does not create possibilities. Sustainability is not keeping what is but creating new possibilities for unexpected but desirable developments. Sustainable development is also a simple notion of attempting to express and secure equity between people, generations and localities but involves a complicated balancing of economic imperatives and environmental capabilities. There is still an enormous challenge to translate the attitude of sustainable development into uniform, widely accepted, workable and controllable concepts.

Subsidiarity

Subsidiarity is an ancient concept which can be traced back to the society described by Aristotle. The idea also figures in the writings of Thomas Aquinas, in the Middle Ages, and Althusius in post-medieval Europe. At this time subsidiarity was still confined to relations between all the different social authorities. Not until the XIX century did it begin to colour relations between the institutions of society and the supreme political authority embodied by the State. In today's Europe a report published by the European Commission on October 8th, 1992 described the principle of subsidiarity as one of common sense. Subsidiarity, as enshrined in article 3-b of the E.U. Treaty, is a principle

designed to ensure that the national identity of the Member States is respected (B. Yvars, 1995). The principle of subsidiarity remains to be translated into operational categories. This is particularly true for all activities related to the Union's spatial development. Subsidiarity, in essence, stands for the need to take decisions at the appropriate spatial level.

For me it is quite clear that the European level can only assume some form of framework responsibility defining the conditions under which the lower levels of government can take their decisions (see P. Treuner, 1995). On the other hand the ways planning systems and planning laws are put together and have been interpreted embody ideologies and beliefs about power and society and are linked to the cultural traditions and socio-economic history of specific countries and regions. As all developments take place at the local level there is a long standing tradition in many countries that most final decisions on land use will be taken at a local level. This is how most development should take place, at the nearest level to the people.

5.6 Confrontation with European planning

Emerging European planning

Spatial policy has not been one of the focal points of the E.U. policy development. Europe 2000, Europe 2000+ and the European Spatial Development Perspective are the first formal and explicit efforts to pull together what the Union is already doing into a strategic framework. Nevertheless one could argue that spatial planning has always been present in Europe. Indeed the planned geopolitical unification as outlined in the Treaty of Rome was supported by extensive, far-reaching interventions and a specific spatial planning (see Swyngedouw, 1994). This planning was implicit, fragmented, uncoordinated and dispersed in many sectoral policies. In this way the technocratic discourse is predominant. All kinds of decisions are cast as mere technical decisions and thereby to a large extent depoliticised and confined to the deliberation of experts. Important political controversies and substantially controversial developments are reduced to norms, rules, procedures. Fundamental political choices are disposed of their substance and are presented as technical-rational management problems. This allows existing power groups to take important decisions hiding the question who holds the power. This makes that the ordinary citizen is completely absent at important planning decisions.

In five years time the European Union is formally advancing with giant strides in the field of spatial planning. Indeed only in 1989, under the French Presidency, the first informal meeting of the Ministers responsible for spatial planning took place in Nantes. As a result the Commission was invited to prepare a document setting out a Community (3) approach to spatial planning. Ever since a flow of information and initiatives started off.

In 1991 the European Commission published "Europe 2000: Outlook for the development of the Community's territory". This was the result of work which started in 1989, following the reform of the Structural Funds in 1989. The Ministers took on board

the Commission proposal to create a "Committee on Spatial Development". In 1993, under the Belgian Presidency, Ministers considered that, besides the studies for Europe 2000+, Member States and the Commission should prepare in this "Committee on Spatial Development", a strategy document entitled a "European Spatial Development Perspective (E.S.D.P.)". This document, which would not be binding on Member States, was to cover the territorial aspects of various Community sectoral policies and set out certain basic objectives and principles. It would therefore, represent the political extension of the Europe 2000+ document.

Europe 2000+ and E.S.D.P. reflect the fundamental interests and needs of the European Union. They are aiming at ensuring the coherence and complementarity of the Member States' spatial development strategies and at coordinating the spatial aspects of Community policies. By concentrating specifically on spatially relevant issues, these reports should provide significant added value for the E.U., for its economy, the quality of life of its citizens and for its sustainable development.

Europe 2000+ is a report by the European Commission. E.S.D.P. will be based on proposals from the Member States, the analysis and guidelines presented in Europe 2000+ and its follow up programme of work. E.S.D.P. forms the political basis for further cooperation in the field of spatial planning policy at a European level. The principles will be built on subsidiarity and will not be binding on Member States.

Europe 2000+ and E.S.D.P. have a clear urban emphasis. Unfortunately the rural is dealt with in a rather superficial and poor way.

Strengths and weaknesses

Strengths

Comprehensive and integrative

Europe 2000+ and ESDP are comprehensive and integrating documents. The documents are not sectoral organised but cross-cutting. The overall objective is to respond to the need for competitiveness, for organising the economy based on a new model of sustainable development and for equity. These objectives call for a strengthening of cooperation on spatial planning.

International in orientation

Spatial planning problems increasingly have an international dimension and can often only be tackled at a supranational (often European) level. In the future planners and policymakers in Europe, even those working exclusively at a local level will have to relate local policies and development problems to European development and prospects. Europe 2000+ and ESDP provide an embryo of a framework in this respect for national and regional governments; for the other D.G.'s within the European Union, for the scientific and professional communities.

Weaknesses

Lack of legal status

Although Europe 2000+ and ESDP remain informal documents, Europe 2000+ has been endorsed by the Commission. This is a step forward compared with Europe 2000.

At present there are no proposals to give a legal status to Europe 2000+ and ESDP. Moreover, Europe 2000+ and ESDP are not linked to any kind of financial programmation or to other (European, national...) policies. This gives a rather low political weight to the reports. Therefore there is little chance that they will directly influence spatial development.

Europe 2000+ is a document from the European Commission. The involvement of a democratic European parliament and a political mechanism so that what speaks for Europe is not only the Commission in Brussels but a body that is politically responsible would constitute a considerable progress. It is indeed not obvious why appointed officials constituting themselves as bureaucratic superstructure, are more democratic than elected members of the European parliament. The role of the different actors has to be clarified. Furthermore there is a clear need for a public debate so that authorities that hold responsibilities in the domain of spatial planning are involved. There is a need to come to terms with subsidiarity and avoiding a noncommittal attitude.

Economic bias

Delors' message was that in order to get the idea of Europe moving again there were four alternatives: to move toward a common defense policy, to work for a common currency, to transform institutions so that they function more effectively and more democratically or to create an economic upturn. The only idea which received the support of all Member States at the time was to get the economy moving.

The Maastricht Treaty made economic and social cohesion one of the major objectives of the Union along with the completion of the Single Market and the economic and monetary union.

If one looks carefully at the basic options for a better territorial organisation phrased in Europe 2000+ and ESDP - competitiveness, viability, solidarity - the economic undertone becomes obvious.

Too narrow view on equity

The environment is shaped through decisions by millions of decision units (individuals, households, firms...). Spatial planning tries to bring some 'order' and 'structure' in these decisions. It refers to strategies and practices which have been developed to help political communities manage their places, cities, regions... (Healey & Piccinato, 1995). In doing this spatial planning or the spatial planner is not value-free. The planner is a partisan for certain outcomes as opposed to others, for the interests of some groups over others, for some conceptions of justice, some patterns of future development and so on.

Although Europe 2000+ deals with segregation, social exclusion, inequalities it does not deal with the basic processes behind that shape to a large extent the built environment. This is very much the case for rural areas. If (rural) planning and (rural) spatial policies are ever going to be effective, they will have to interfere purposefully with the determinants of these processes.

Spatial relations are closely connected with social relations. Spatial decisions are the outcome of a permanent struggle for the control over space by different actors. The result is very often considerable territorial tension as different individuals or groups lay claims to the same places. It is extremely important to comprehend the interests and the power relationships of these actors. One of the strongholds of spatial planning is using it as an integrative mechanism for different, often competing, spatial claims.

Planners and policy-makers do not work on a neutral stage, an ideally liberal setting in which all affected interests have voice; they work within European, national, regional, local political institutions, on political issues, on problems whose most basic technical components may be celebrated by some, contested by others. Any account of planning and policy making must face these political realities (see J. Forester, 1989). This attitude (taking a stand) is missing in Europe 2000+ thereby somehow neglecting explicit attention to the main causes of social justice issues in this way highlighting the dominance of utilitarian tendencies in planning culture. A basic concern should be how to make policies which allocate resources between places more sensitive to individual and community needs and preferences and how to avoid that if conflicting interests clash the weakest functions mostly lose.

Too narrow view on sustainability

Sustainable development has been used in Europe 2000+ and in E.S.D.P. in a too narrow ecological sense excluding economic, social, spatial elements missing somehow the opportunity to use sustainability as an integrative concept.

Europe 2000+ and E.S.D.P. provide too little intellectual or practical guidance on how the principles of sustainable development might be put into practice, when and by whom. The negative effects/impacts socially and environmentally, of E.U. policies are (understandingly) neglected in Europe 2000+.

The demands of the new agenda of sustainability require us to change our priorities and behaviour. Some people will gain others lose. Some of the losers will be the poorest in our societies. This will produce conflicts Europe 2000+ and E.S.D.P. do not deal with.

5.7 Conclusions

This paper reflected on what type of planning and what approach is suited to tackle (some of) the problems and challenges rural areas are faced with. The proposed type of planning and the approach are confronted with the emerging European spatial planning.

It must be very clear that the last I am aiming at is the creation of a uniform planning system all over Europe. It is exactly the opposite I want to achieve. The existing planning systems must remain and enrich their products with European elements and a European perspective, and respond to a limited, flexible and open scheme at a European level. A European spatial planning activity is acceptable if it is complementary, empowers the local level and coordinates E.U. spatial activities.

Much needs to be done at the European level itself. Important in this respect is a positive reaction against fragmentation of E.U. spatial policy. A first, difficult but extremely important step could be to use Europe 2000+ as a frame for the increasing amounts of structural funds so that these would have the effects for which they have been intended. Furthermore the document could constitute an embryo for a frame of reference and provide guidelines for all space related policies (agriculture, network...) at a European level. If the European Union itself fails to stick to the ideas reflected in the emerging spatial planning it will provoke major discontent. Very soon critical questions will be raised about the gap between the report and the actual sectoral E.U. policies.

Europe 2000+ and the ongoing work on the European Spatial Development Perspective may deepen and strengthen the debate for a (limited) Euro-wide spatial planning. Together they may constitute an embryo for a limited but nevertheless useful tool.

For the sake of the research theme 'transformation of rural areas' of the Mansholt Institute some suggestions for further research are derived from this contribution:

- translation of sustainable development and subsidiarity into clear, widely accepted, workable and controllable spatial concepts;
- analysis of the functioning of land development markets in rural areas;
- analysis of the basic processes (economic, social, political and spatial) shaping the rural areas;
- creation of a clear vision on rural areas at different levels (Europe, nation, region...);
- development of institutional, procedural and substantial criteria for strategic rural projects;
- giving content to redistributional programmes for rural areas;
- establishing criteria for measuring the impact of all kinds of developments on rural areas;
- elaborating the idea of spatial collective agreements;
- operationalisation of the concept of interweaving areas;
- further reflections on what type of planning and what approach is best suited to tackle problems and challenges in rural areas;
- ...

NOTES

(1) The planning I refer to is known as spatial planning, urban and regional planning, land use planning, aménagement du territoire, Raumplanung.
Planning involves a dialogue between three main groups of actors: the government, the planners, the organized and non-organized population.
These three groups constantly exchange information. Struggle for the geographical distribution of resources takes place within each group: governments with their many governmental departments, commissions, councils, political parties and organizational levels; the organized and non-organized population with many individual and collective interests and regulating units (large firms, pressure groups, project development companies, institutional investors,...) and planners (public, private, different levels, relation to other units, departments, different sectors...) are internally very much differentiated as far as their nature, their goals and their balance of power are concerned. A communicative framework is needed to make the interplay of the three groups of actors work.

(2) A clear reference is made to the experience with the collective labour agreements.

(3) Throughout this paper I use the term Community when referring collectively to the institutions of the European Community.

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CHAPTER 6

MARKETS, MORAL ECONOMY AND THE ETHICS OF SUSTAINABLE AGRICULTURE

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6.1 Introduction

Reviewing the literature on sustainable agriculture in 1984, Gordon Douglass found three patterns of conceptualization. One group of authors utilized a *resource sufficiency* conception of sustainability. On this view, a practice is said to be sustainable over a given period of time only if the resources needed to carry on the practice are on hand or foreseeably available. A second group stressed *ecological sustainability*. On this view, a sustainable practice is one that does not violate or disrupt natural biological processes, especially when biological processes are essential to renewal of the organic materials necessary for life. The third group of authors stresses *social sustainability*. Douglass characterizes these authors as concerned with justice and equal opportunity. Advocates of social sustainability seem to be saying that social goals should not be sacrificed at the altar of resource sufficiency or ecological sustainability (Douglass, 1984, 14-18).

My goal is to provide a more convincing conception of social sustainability, but first it will be useful to analyze why these three patterns of conceptualization are sometimes interpreted as competing paradigms. Here I use the term 'paradigm' in the sense popularized by Thomas Kuhn (1970) and applied to environmental policy analysis in a recent paper by Bryan Norton (1995). Norton defines paradigm as "a constellation of concepts, values, and assumptions, as well as accepted practices, that give unity to a scientific discipline." (p.113). To that I would add that a paradigm includes an implicit specification of unsolved problems and key research needs. My main thesis is that while *social sustainability* is essential to an ethic of sustainable agriculture, it has not been conceptualized in a manner that implies a clear research agenda. For this reason if no other, the dimensions of social sustainability have been neglected over a decade of research on sustainable agriculture and sustainable ecosystem management.

6.2 Paradigms of sustainability: Resource sufficiency and ecological sustainability

Resource sufficiency defines sustainability as an accounting problem framed by two key value questions. What practices do you want to undertake, and how long do you want to undertake them? Given answers to these questions, one can perform research to identify both existing and optimal rates at which resources are needed to support the specified practice, and from this one can calculate the total amount of resource needed. Alternatively, one can measure both the rate of resource consumption and the existing

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supply and calculate from these measurements how long a given set of practices is sustainable. Resource sufficiency has clearly been especially influential in conceptualizing sustainable development in a manner consistent with the Brundtland definition of 1987, "development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs." (World Commission on Environment and Development, 1987, p 43)

Although it may seem absurd to specify an infinite time horizon for resource sufficiency, it is possible to conceptualize practices as sustainable into the indefinite future by determining resource sufficiency over a definite but rolling time horizon. To do so, one presumes that ever-increasing efficiency in the utilization of non-renewable resources results in continuous decrease both in the present consumption of the non-renewable resource, and in the amount needed to maintain resource sufficiency over each new iteration of the rolling time horizon. This approach to sustainability thus specifies an agenda of research in resource utilization that is reasonably clear and of obvious value to resource managers. Henk van den Belt ties a Brundtland-type conception of sustainability to the Dutch debate over measuring the environmental utilization space (EUS). According to van den Belt, the concept of an EUS deploys several elements associated with ecological sustainability (discussed below), but takes a resource sufficiency approach to non-renewable resources (van den Belt, 1995).

Van den Belt's analysis of the EUS debate indicates the first of two problems that plague resource sufficiency conceptions of sustainability. Resource sufficiency is only meaningful once the key value judgments have been made. What do we want to do, and at what rate do we want to do it? When resource sufficiency conceptions of sustainability are framed for society on a whole, these two questions encompass more than two centuries of disagreement and debate over the purposes of human life, and over the distribution of access to life's most attractive opportunities. As such, the allegedly objective science required for doing the accounting called for by a resource sufficiency notion is in fact thoroughly, and perhaps deceptively value laden. The technical clarity of resource sufficiency conceals the fact that accountancy begins only when the fundamental decisions have already been made (van den Belt, 1995).

What is more, resource sufficiency places an implicit emphasis on non-renewable resources. These, after all, form the greatest challenge to extending its time dependent dimensions into the indefinite future. This emphasis may reflect the importance of *development* rather than agriculture in the Brundtland definition. Resource sufficiency provides no reason to treat resources such as water and soil as different from resources such as fossil fuel, since the same efficiency-increasing logic may be used to account for either over the period for which resource sufficiency is calculated. Yet much of the impetus for sustainable agriculture, as distinct from sustainable development, has come from the belief that it should be possible to farm in ways that do not deplete soil and water resources at all.

Ecological sustainability presupposes that human activity is nested within functional biological systems. Ecological sustainability thus frames conceptual and research questions in terms of a need to understand first the processes that renew resources, and second the

impact of human activity on these biological systems. Executing this research program has proved to be more difficult than first expected, for there is far less stability in natural ecosystems than originally imagined. It may in fact be the case that human management of nitrogen cycles, soil formation, and watersheds in traditional agriculture produces more stable ecosystems than typically exist in nature. Whatever the case, ecological sustainability differs from resource sufficiency at least in that it provokes us to examine such processes, and to formulate models of the systematic interaction of these processes through the median of living organisms and their life cycles. The formulation, testing, and revisions of such models becomes the leading idea behind the ecological sustainability paradigm.

Norton (1995) believes that resource sufficiency and ecological sustainability (my terminology, not his) constitute incompatible paradigms for the policy sciences. The incompatibility arises from the fact that advocates of each conception have incompatible views on the inter-substitutivity of resources. According to Norton, advocates of resource sufficiency take the neoclassical economic assumption of substitutivity quite literally. On this view, for any two goods A and B, there is some amount of A such that economic agents are indifferent between a bundle of goods containing A, and an otherwise equal bundle of goods containing B. To say that A substitutes for B implies that when one has enough A, it compensates for the loss of B. Economists such as Julian Simon and Robert Solow have argued that learning (human capital formation) substitutes for non-renewable resources such as fossil fuels as the relative supply of these two goods shifts from a relative scarcity of human capital to a relative scarcity of fossil fuel. Economic jargon aside, the idea is that our efficiency in the consumption of nonrenewable resources increases over time because we "substitute" knowledge for non-renewable resources. The increasing scarcity of goods such as fossil fuels is a key part of the argument, since such scarcity makes learning cheap in comparison to more consumption of fossil fuel. Market forces, thus, serve as the mechanism for substituting one good for another.

Norton shows that advocates of ecological sustainability reject the hypothesis of intersubstitutivity for resources. Nowhere is the qualitative difference between resources more important than with respect to renewable resources. Fisheries provide an impressive object lesson. As long as a breeding stock of fish is maintained, fishers may harvest a continuous flow of fish from the fishery. However, fish do not begin to become scarce (signaling a need to change human behavior through market forces) until breeding stocks have been fished beyond the point of recovery. Hence even if we accept the claim that market forces provide incentives to conserve steady-stock resources such as fossil fuels, they may fail with respect to stock and flow renewable resource pools. Advocates of ecological sustainability call for an approach to public policy and resource management that recognizes the different ways that resources can be depleted or replenished, and argue that the use of resource sufficiency tools to define sustainability for renewable resource systems may be inappropriate. Norton argues that the different assumptions of the resource sufficiency and the ecological sustainability approaches result in inconsistent policy approaches. He calls this a paradigmatic difference because, in his view, it can be

traced to essential elements in the fundamental assumptions of neoclassical economic theory (Norton, 1995).

Although resource sufficiency and ecological sustainability are in some tension with respect to their key value judgments, it is not clear that they are truly competing paradigms. The problem of inadequate market signals noted above is entirely consistent with neoclassical economic theory. An advocate of resource sufficiency might well recognize the difference between types of resource for example, but would tend to reflect this difference by comparing the cost of using a renewable resource pool so as to maintain stock and flow with the cost of depleting it as one might for a truly nonrenewable resource. Both neoclassical and ecological economists might attempt to resolve this problem with institutions that provide better mechanisms for informing fishers of the true cost of their practice (or, in economic jargon, for internalizing the costs of depletion). For their part, advocates of ecological sustainability must accept something very much like the idea that non-renewable resources can continue to be depleted at ever slower rates, at least while one searches for permanent renewable substitutes. Clearly there may be disagreements about how much depletion should be allowed, but Norton has not made it clear that these disagreements are paradigmatic, rather than more straightforward value disputes. Value disputes will generate incompatible policy prescriptions, but it is simply not clear that they make it impossible for someone working within a paradigm of resource sufficiency to "see" in the same way that someone working from ecological sustainability does.

Thus while each of the advocates of these two conceptions of sustainability would be willing to subsume the other, each has some use for the knowledge produced by the other, and each leaves conceptual space for the other. An advocate of resource sufficiency will find knowledge of the rate at which resources are renewed useful, even essential, to the accounting problem, even if they see no reason to grant special status to so-called renewable resources. The advocate of ecological sustainability will recognize that some consumption of nonrenewable resources will be required by virtually any scheme of agriculture currently being contemplated, and the potential for substituting non-renewable for renewable resources (as with chemical fertilizers) will exist so long as it is economically feasible. These two paradigms are scientifically compatible, even if they are linked to mutually incompatible social value judgments. Researchers may happily apply themselves to both research paradigms, blissfully ignorant of whether policy-makers share their fundamental value assumptions.

6.3 Paradigms of sustainability: Social sustainability

As Douglass noted in 1984, a large contingent of authors writing on sustainability appear to be talking about something rather different from either resource sufficiency or ecological sustainability. Kenneth Dahlberg, for example, claims that the agronomic and agroecology work on sustainable agriculture has "a serious weakness ... it does not recognize that in the longer term it can be successful only to the degree that other

portions of the food system *and* the larger society also become more sustainable and regenerative." (Dahlberg, 1993, pp. 81-82.) Dahlberg believes that a pattern of industrialization in agriculture threatens the food system. Ironically, Dahlberg's first point is endorsed by strong advocates of industrialization. A respondent to a 1990 survey of agribusiness executives' opinions on sustainable agriculture characterized it as "that level of productivity that allows the agricultural enterprise to be economically competitive...[a sustainable practice] offers in [its] own way a savings consistent with profitability under the free-enterprise system. That means sustainable agriculture to BASF." (Richgels, 1990, p 31.) Clearly there is something other than resource sufficiency *or* ecological sustainability at work in these quotations.

In contrast to resource sufficiency conceptions, those who have advocated social sustainability appear to wear ideological agendas on their sleeves. One version of this ideology has stressed profitability. Farmers, ranchers, and agricultural suppliers must generate income sufficient to repay loans and purchase inputs for the next production cycle, hence production systems that fail to regenerate the capital needed for each cycle of production are not sustainable. Whatever flaws this conception has, it at least roots the sustainability of a farming practice within a process of regeneration. Since the demand for food is inelastic, there always will be capital available to support investments in agricultural production. The cost of this capital will fluctuate dramatically, of course, but in theory at least, these costs should be passed to consumers in the form of food prices. If the supply of capital is assured, the problem of sustainability is simply one of ensuring that farmers are profitable, that is, that they can indeed recover all of their production costs, including the cost of capital, from the sale of the commodities they produce. Productivity is crucial, since it simply *is* the ratio between the value of inputs and the value of outputs. On this view, profitability becomes a synonym for social sustainability.

A leftist version of social sustainability has stressed two points, summarized by Douglass as follows:

> The first is about justice--or fairness--in the relationships which develop among community members, and the second is about participation in the making of social decisions. In the hands of alternative agriculturists, justice refers primarily to the norm of equalized opportunity for all members of a community... This means that social and economic structures of community life must not be allowed to create vast differences in the access of individuals to acceptable standards of nutrition, health, housing, and education, nor to bar them from full participation in the social and political systems of the community. These interpersonal differences of opportunity must be limited not only among today's citizens but also between generations, lest the present members of the community become profligate and destroy opportunity for their children. (Douglass, 1984, p. 18.)

Douglass' view has been substantially updated in the essays collected in Patricia Allen's *Food for the Future*. Allen argues that society and nature are "co-produced" and that

distinctions between society and nature are either arbitrary or politically motivated. This argument permits her to interpret both resource sufficiency and ecological sustainability as conceptual tools for repressing or simply ignoring the social dimensions discussed by Douglass ten years earlier. (Allen, 1993, pp. 8-11.)

Unfortunately, both approaches to social sustainability are dead on arrival with respect to generating a research program. The rightist version of social sustainability has failed to generate a meaningful research agenda because its advocates have faith that markets will continuously regenerate profit incentives to insure the production of food. Once markets are present, profitability becomes a necessary condition for sustainability and there is nothing more to learn. If the markets are not present, the only explanation is that government interference has blocked their emergence, hence, again there is nothing new to learn. While this overstates the situation a little it is nonetheless true that the kinds of research on market structure, finance and productivity that would contribute to a profitability-based conception of social sustainability are nothing new. Research of this sort has been conducted by farm management experts and agricultural economists for many decades.

The leftist version fails to generate a research agenda for reasons that are more subtle and that I have examined at some length in *The Spirit of the Soil. Agriculture and Environmental Ethics* (1995). I will summarize the argument here. One can (and our forebears have) conceptualize fairness, equity, justice and the other central normative concepts for evaluating a given civilization without reference to its sustainability. The most plausible way to develop a normative position that reflects our new knowledge of environmental threats to the future is to say that a civilization should be sustainable *in addition to* being fair, equitable and just. This approach poses a philosophical puzzle in that we must ask when it might be appropriate to accept a decline in fairness, equity or justice in order to have a more sustainable society. Indeed, this is a familiar question for some who have advocated either resource sufficiency or ecological conceptions of sustainability.

The left-oriented advocates of sustainability challenge the validity of this question by claiming that unfair, inequitable and unjust practices make a society unsustainable. Lori Ann Thrupp asserts this, for example, in her contribution to the Allen volume when she writes that "the most important causes [of land degradation] include the inequitable control of resources, short-term economic interests and resource exploitation, and skewed policy incentives (i.e. state influences) embedded in the prevailing patterns of uneven development." (Thrupp, 1993, pp. 53-54) Yet this is an impossible proposition to prove with social science research. The 'skewed' incentives are only one component of the social environment that structures the opportunities of economic agents and it is the totality of this structure that causes land degradation. Proving the even broader claim that inequality is itself unsustainable would require that one eliminate every repressive and unjust alternative to the status quo from the universe of potentially sustainable societies. One can readily imagine political regimes with food production systems that are sustained through systematic exploitation of forced labor and even through ruthless execution of dissenters. There are arguably historical examples of such systems to be found as well. If

one cannot *prove* that repression is unsustainable, the alternative is simply to *define* sustainable agriculture as agriculture that meets the criteria of fairness, justice, participation, etc. But here one seems to be using the word 'sustainable' as a substitute for 'morally acceptable.' Why not simply say morally acceptable agriculture?

Allen and her contributing authors are on firm ground when they point out that programs for sustainable agriculture have overlooked the problems of hunger, gender, minority rights, and unfair labor practices. (Allen and Sachs, 1993, 144-150.) When advocates of sustainable agriculture propose solutions to *environmental* problems that fail to recognize these *social* problems, they leave themselves open to valid moral criticism, but the advocates of social sustainability have not offered convincing accounts of the mechanisms that link these moral problems to the non-sustainability of a social system. This failure is most evident in philosopher Tom Regan's contribution to Allen's book. Regan runs through the standard list of philosophical approaches to ethics, examining why and whether they entail vegetarianism. Regan concludes that despite a diversity of conceptual approaches, all arrive at a rejection of so-called factory farming, thus ethical vegetarianism is a component of sustainable agriculture. (Regan, 1993, 103-121.) Now there is clearly a basis for being concerned about shifts in animal production that replace extensive animal grazing (where nitrogen cycles and energy use is low) with intensive or confinement systems that utilize more fossil fuel and turn nitrogen into a pollutant, but these concerns emerge out of an ecological conception of sustainability. Regan's discussion of vegetarianism adds nothing to ecological sustainability. If there are morally compelling reasons to become vegetarians, these operate independently of how we understand an agriculture to be sustainable or not. Incorporating these norms into one's definition of sustainability burdens the word with rhetoric that diffuses and obfuscates its meaning, and weakens its political appeal.

Neither does Allen's claim that both nature and society are constructed help the case very much. Theorists such as Foucault (1966), Latour (1994), Haraway (1991) and Knorr-Cetina (this volume) have produced convincing reasons for thinking that the distinction between nature and society often precludes learning, and can be utilized to reinforce power distributions. The view that a market-economy is somehow "natural" is only one of the most egregious abuses of the nature/society fallacy. Yet some nature/societies are clearly more just than others, once some criterion of justice has been proposed, and some nature/societies are probably more sustainable than others. Recognizing that we live (and have always lived) not in nature and society but in a nature/society such that the reasons for distinguishing the two are always pragmatic and value laden does not suddenly produce a research agenda for social sustainability. It may still turn out that resource sufficiency or ecological sustainability are precisely the concepts that we need, not because they are "natural," but for pragmatic and value-based reasons. Left-leaning social sustainability needs an account of why its favored values might be thought to contribute to the regeneration of food systems, just as Dahlberg suggests, but in order to get that account, its advocates must frame a research agenda that shows how values of any sort (even profitability) might be relevant to the regeneration of a food system.

6.4 Moral economy

In stating that agriculture must distribute goods fairly and have a participatory decision process, Douglass and Allen have done nothing more than state moral preconditions for sustainable practices. As I have argued, this provides little insight into sustainability as such. It is as if either resource sufficiency or ecological components provide the conceptual content of sustainability, but that any proposal for sustainable development or sustainable agriculture must meet the independent moral criteria favored by Douglass, Thrupp, Regan and the others in their camp. This is a perfectly coherent moral position, but it is not a third paradigm and it does not specify any research agenda for social sustainability. There may be a need for research on liberal social institutions, but that need exists apart from any conceptualization of sustainability.

A more promising start can be given to the leftist view by placing it within the context of research on moral economy. E.P. Thompson's paper "The Moral Economy of the English Crowd in the 18th Century" laid the foundations for the last three decades of work. Thompson attempted to explain bread riots in rural English villages as a protest against the emergence of market structures for distributing grain. Put simply, English peasants and villagers thought themselves to have an entitlement to purchase grain and bread from the fields of nearby farms in their district. This perceived entitlement was challenged by farmers who were beginning to use improved roads and to seek the best markets for grain. Although villagers recognized that farmers were entitled to compensation for grain, they rejected the farmer's right to exchange with any willing buyer, and hence felt that the larger regional markets caused an illegitimate and extortionary price increase for bread and grain. (Thompson, 1971.)

Thompson used the term "moral economy" to describe the system of rights, privileges, norms, and expectations that organize--or at least frame-- relationships of production, distribution, and exchange in small village societies. Moral economy provides a structure of rules for producing and consuming subsistence commodities, especially food and especially in times of resource scarcity and stress. To a large extent, moral economy is replaced by political economy as central states take power over the roads, currency and other elements of infrastructure that are necessary for regional and national markets. Political economy also frames private transactions within a structure of rights and norms, but does so in a manner that is formally institutionalized by public laws and regulations. Thompson believed that political economists (meaning Adam Smith) would be unlikely to endorse the implicit system of rights and rules that comprise moral economy. First, moral economy limits the power and authority of the central state. Moreover, trade is hidden within transactions so private that they easily escape the tax assessor's notice, and finally such private rules discourage the expansion of production and the growth of markets that should, in Smith's theory, make everyone better off.

Thompson's idea was expanded considerably by James Scott in *The Moral Economy of the Peasant*. Scott's ethnographic research in Asia found a vibrant moral economy among peasant farmers. One notable feature was a practice of choosing production methods that

minimized the risk of a crop failure, despite clear knowledge that alternative methods were optional from a profit-maximizing perspective. Scott found in effect that peasants organize their society according to the "maximum" rule enshrined by John Rawls (1971) in his "difference principle:"choose the social structure that has the best worst case. Neither Thompson, Scott, or Rawls wrote about sustainability, but it is a short step. The forms of moral economy described by Thompson and Scott are satisfying systems of social organization; they aim to maximize the chance of merely sustaining the society, rather than achieving an optimal level of social well being.

The implication that one might draw is that the historical transition to optimizing social institutions creates a situation where people are constantly placed at risk. Thompson's emphasis on the period of transition from feudal agrarian societies to industrial capitalism is certainly consistent with such a view. Yet this view of social sustainability still leaves several key questions unanswered. It is plausible to assume that any system of agriculture that remains stable over a period of centuries is sustainable. We will find few examples of human practices that are recognizably stable for longer periods (Dickson, forthcoming). So the long-lived precapitalist and peasant systems of food production and distribution provide a good reference point for sustainability. Furthermore, the changes that take place in these systems through the transition to market economy and industrial capitalism are also relevant to use of injustice or inequality as a reference point for sustainability. Nevertheless, the fact that *people* are placed at risk in a system for food production and distribution is not in itself evidence that the *system* is unsustainable. To put it bluntly, the system might simply "consume" a certain number of people--the hungry, the marginalized, and low wage workers (or slaves)--but so long as the "breeding stock" for these human inputs to the system is maintained, the "flow" of people needed for the production process can simply be "harvested," just as fish are harvested from a sustainable fishery. An agricultural social system that treats the people who suffer and die through its machinations as a harvestable flow is morally repugnant, but is it unsustainable? Can't such systems continue indefinitely?

6.5 Moral economy and social sustainability

The moral economy of Thompson and Scott is thus not in itself a key to sustainable society. One conceptual problem with Thompson's moral economy in particular is that it is portrayed as static: a system of rights, rules, and expectations. But clearly such systems are susceptible to change, and as such, we can ask how systems of moral economy either remain stable or evolve over time. Scott's recent work, beginning with *Weapons of the Weak*, and continued in *Domination and the Arts of Resistance*, begins to examine the practices and procedures for the social reproduction of moral economy, or for ensuring that key norms and beliefs are shared continuously and extensively over at least some expanse of space and time. (Scott, 1990) Two of Scott's points are especially relevant. First, he describes the constant testing of rights and constraints through minor affronts, and argues that this behavior is as crucial to the social reproduction of moral economy as

is the verbal telling and retelling of rights and privileges through official documents and informal channels. The constant give and take permits a gradual evolution in the terms of moral economy, especially with regard to claims that relatively powerful people make upon the less powerful, and vice-versa. Second, he shows that informal channels that can be hidden from view are especially important for the reproduction of moral economy among the weak. Furthermore, these informal communication networks can consist of highly oblique "texts," including folktales, fables, theater and carnival. The vagueness of these texts permits multiple interpretations, and hence spawns a hidden discourse of testing and enforcement even within relatively powerless groups.

I want to propose that collectively these verbal and non-verbal procedures of reproduction, testing and revision constitute the practical moral discourse of moral economy. I also want to suggest that the potential for revision and transformation of rights, privileges and constraints (that is the potential for moral discourse) implies an ethical dimension: verbal and nonverbal exchange aims not at what the moral economy *is*, but at what it *ought* to be. This is still a long way from what we ordinarily call moral philosophy, for practical moral discourse as I have described it implies no systematization of moral claims. It does not require that agents in a moral exchange apply standards of consistency to their claims or behavior. Furthermore, many of the actions or strategies described by Scott entail or threaten violence, and seek nothing more than individual or group interest. Nevertheless the ensemble affronts, tit-for-tat retributions, and verbal disputes reproduce a moral order, which however far from a philosophical ideal, nevertheless permits certain sorts of action without fear of retribution, and constrains other actions that might be otherwise attempted.

This notion of practical moral discourse may come perilously close to what Rod Neumann calls "the value system of the community," E. P. Thompson worries that "if values, on their own, make a moral *economy* then we will be turning up moral economies everywhere." (Thompson, 1993, p. 339.) This not only carries the potential of making moral economy into a conceptually empty phrase, it converts Scott's work into a simple restatement of the basic question of social psychology, namely, "How are social norms transmitted from person to person and reproduced over time?" In one sense, I *am* simply saying that social sustainability does not become a meaningful research paradigm until social psychology is placed at the center, but I also believe that moral economy is a new and promising way to think about this old problem in sociology. Although it certainly is possible to spell out systems of moral values, meaning a logically consistent account of moral concepts along with rules for determining the relationships among concepts and for generating prescriptions for action, it is doubtful that many individuals actually possess or utilize a "value system," in that sense. Why would we expect an ordered value system to emerge at the community level? The concept of moral discourse, determined as second-order moral economy, places both practices and verbal strategies within a context where continuous deployment of any single package of practices and strategies by a single

group or individual* will eventually be met by opponents who either attempt to revise the package or impose an alternative. Revision rearranges the implications of practical moral discourse so that it serves a different configuration of rights, privileges and constraints (e.g. a different first order moral economy). Moral discourse, or second-order moral economy, at least puts the *economy* back by combining linguistic strategies for revising first order moral economy with the affronts, retaliation and threats that make it costly either to propose, defend or reject a moral claim. Such practical moral discourse need not be confined to a special corner of social behavior that can be understood as a "holdout" against capitalism. In fact, practical moral discourse is the medium for institutional innovation at the local level. It is what some have called micropolitics.

As I have defined it, practical moral discourse stands between the structure of rights, privileges and constraints (perceived or actual) that are the object of E.P. Thompson's and Scott's early work, and political or ethical theory, which exists primarily in splendid isolation from actual political conflict. As currently practised, political and ethical theory operates at a third order of normativity, providing an account of what moral discourse *should* be. Conventional ethical and political theory provides a systematic set of rules and concepts for making normative arguments about whether a given structure or pattern of conduct is legitimate, just or morally good. However, in excluding the sometimes violent, sometimes cynical, and always chaotic "negotiation," that goes on when individuals and groups both reproduce and revise the structure of norms--the moral economy--political and ethical theorists leave a gap between their own discourse and practice. Scott's later work can be interpreted as an attempt to theorize what happens in that gap. He describes an arena where the structure of rights, privileges and constraints is reproduced and revised; reproduction and revision are fully economic processes in that they have costs, risks and benefits. It is Scott's appreciation of the economic dimension to the maintenance of norms that provides an opening for rethinking this process as a problem in sustainability.

The linguistic and non-linguistic practices of reproduction and revision embody a second order that refers to the first order structure of rights, privileges and constraints. I have called this second order of moral economy, "moral discourse," but it does not meet the political or ethical theorists' notion of morality. The conflict and negotiation dimension of moral discourse reproduces moral economy at the first order: the structure of rights, privileges and constraints. But the strategic dimension of moral discourse, the element of challenging opponents' claims and imposing costs on their attempts to make claims, produces a normative dimension to moral discourse that stipulates reflexively what the first order structure should be. Conventional political and ethical theory can be

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* My package is a less grandiose version of *ideology*, including the coercive practices that enforce it. However, being less grandiose is important! There is no reason to think that people employing a package of practices and arguments in a given time or place are necessarily committed to or captured by the kind of totalizing or systematic belief in an ideal economic, political or moral order implied by the term "ideology." I will continue to use the more modest idea of moral discourse.

interpreted as an extremely purified version of moral discourse, purged of violent and coercive dimensions.

Idealized Hierarchy of Normativity	
1st Order Moral Economy	*Structure of rights*, privileges and constraints
2nd Order Moral Economy	*Moral discourse*, or negotiation of structure
3rd Order Moral Economy	*Political and Ethical Theory*, or systematization of rules for practical moral discourse

When the middle level is ignored, we can conceive of political and ethical theory as performing the critique of social structure, but this is only plausible to the extent that we think of social structure itself being reproduced entirely by formal mechanisms such as law, education and government. Many of E.P. Thompson's readers may have thought that it was industrial capitalism's ability to reproduce itself through these formal state-sponsored mechanisms that marks the difference between moral and political economy, but this picture of social transformation has some evident flaws. For one thing, it implies that the vast majority of the populace participate in moral discourse vicariously, through the process of elections or as passive recipients of moral and political ideology. One should question whether norms are ever reproduced this way at all. What seems more likely is that a new kind of hidden discourse will begin to emerge, one that takes place out of view from the public, official state-sponsored discourse. This discourse will have a very different shape and texture than that of Scott's peasants, for in open societies being "out of view" may not literally mean "hidden," and the testing and conflict that shapes this discourse in stratified class societies will also be very different.

Yet it is arguably only at the middle level that we can begin to reformat questions about social regeneration. Social sustainability depends on whether practical moral discourse reliably and authentically reproduces and appropriately modifies the structure of rights, privileges and constraints that gives a society its distinctive identity and culture. Perhaps even more crucially, second order moral discourse links personal interests and felt personal loyalties to the moral language of duty, responsibility, rights and accountability. This means that practical moral discourse is a crucial element of *effective* norms, norms that function *as* norms, rather than simply as codifications of ideology and state power.

6.6 Moral economy and sustainable agriculture

Moral discourse is essential to agriculture in so far as people's willingness to recognize morally valid rights, privileges and constraints shapes agricultural practice, and agriculture is essential to moral discourse to the extent that practices for producing and consuming food are sources of conflict, interest and loyalty. Put another way, we may

ask if it will ever be possible to have a truly sustainable agriculture in a world where farmers and agriculture's key decision makers are entirely cut off from the experience of nature, the approval of community, or the claims of the hungry. We may also ask whether a sustainable society is possible in a world where food is provided in device-like fashion, and where the problem of food availability ceases to pervade the practical moral discourse of the common person. It seems likely that people living in such a world would lack the practical moral vocabulary to even form the idea that agriculture might have unique responsibilities to (and dependency on) nature, the community and the hungry, and, lacking these ideas, might fail to see some of the special considerations awarded to agriculture as components of reciprocity that have emerged out of practical moral discourse.

Practical moral discourse ends to the extent that the daily lives of people cease to be informed by a structure of rights and expectations born of personal loyalty and conflict. As conflicts tend to be mediated by the state, practical moral discourse gives way to politics. There is no sharp distinction between the two, but at the more politicized extreme, one can question whether conflict and negotiation any longer retain the capacity to reproduce the vocabulary of rights, responsibilities, virtues, vices, and legitimate expectations. People who lack an experimental basis for these concepts are left with nothing but market incentives to guide their practice, and may construct a politics that is utterly uninformed by ethics and history. There are, thus, reasons to think that a system of agricultural production which places key agricultural decision makers in a direct dependence on local ecological processes and on local community support may indeed be more sustainable. It is impossible to elaborate on how emerging industrialized systems may fail to do this within the confines of a philosophical essay, so one suggestive example that stresses a philosophical point must suffice.

Research on resource sufficiency and ecological sustainability has proved capable of specifying the human behavior needed to reach goals in at least a few instances. As stated above, fisheries management can set flow levels so that fish will be regenerated and fisheries are sustainable. Many of the scientists who have established these targets assume that once people have been told what course of action is needed to reach an agreed upon goal, simple rationality dictates that they will pursue it. Yet, of course, this seldom happens in practice. One reason is that strategic considerations can make individual rationality diverge from the cooperative behavior needed to conserve resources (Lee, 1993.) A more philosophical reason may be that the consequentialist morality implied by this means-end model of environmental management is fundamentally flawed. This simple picture of fisheries management presumes that the morally good action is the one that reliably produces the morally good outcome. It implicitly presumes that people conceive of morality as a problem of choosing the means to bring about morally justified consequences. Difficult work is presumed to lie in evaluating the cost/benefit trade-offs implied by any course of action, but once that work is done, morality consists simply in performing the actions that bring about the best consequences.

Yet consequentialism, the view that morality simply consists in choosing acts that bring about the best consequences, has been exceedingly controversial for at least three hundred

years. Although some philosophers defend consequentialism, many reject it, and even its defenders generally admit that it does a poor job of representing the average person's moral psychology. From J.S. Mill to R.M. Hare consequentialist philosophers have argued that means-end rationality provides a better *philosophical* account of why ordinary notions of rights, duties, virtues, vices and loyalties are moral, but they have also believed that almost no one actually conceptualizes their moral life in such means-end, consequence seeking fashion. Everyone admits that common morality consists either in notions of doing one's duty and exercising one's rights, irrespective of the consequences, or in totally implicit or partially conceptualized practices and expectations. Now setting aside the philosophical debate over whether consequentialism is an adequate moral theory, the point to note here is that scientists and policy-makers have built their prescriptions for environmental management on a means-end model. Yet if even the advocates of consequentialism believe that it provides a poor account of how people conceptualize their moral lives, why would we ever think that simply telling people what the consequences of their behavior will be would ever be an adequate approach to the ethics of sustainable agriculture?

It seems very likely that scientists and technicians can engineer forms of industrialized agriculture that are compatible with the requirements of resource sufficiency and even ecological sustainability, but it seems unlikely that their advice will be particularly persuasive. Market incentives are far more likely to govern choice, without regard to long term consequences. This means that market incentives must be aligned to produce the behavior that is needed, but the realignment of market structures is itself the process that depends on both political and moral economy. It is questionable whether people whose daily lives are totally given over to market choices and means-end advice will have the moral sensibilities and motivation to realign market incentives not only with ecological requirements, but with the broader requirements of justice and equity. Simply specifying which behavior results in sustainable resource use does not, in itself, provide a basis for action. To the extent that resource sufficiency and ecological sustainability are committed to a consequentialist vision of moral psychology, they are at odds with social sustainability. Rather than *asking* and *researching* the crucial questions, advocates of these views seem to have assumed that demonstrably inadequate conceptions of human agency will suffice. In my view, the central research question that emerges from a conception of social sustainability is this: how are the norms that would facilitate cooperative and careful use of both renewable and non-renewable resources produced and reproduced in human society, and ominously, is a society given over to means-ends models of resource management capable of reproducing them?

The research topics that issue out of this central question raise many subsidiary questions, both substantive and methodological. These questions obviously extend beyond the scope of this paper. They are also inherently multi-disciplinary, and exceed what a philosopher can say alone. Understanding social sustainability will require collaborative research by philosophers, economists, sociologists, and geographers. This research will need the tools emerging from the work of new institutionalist economists such as Douglas North and Daniel Bromley. It will need the theoretical framework offered by the

sociology of reflexive modernization found in the work of Anthony Giddens and Ulrich Beck. It will need the close empirical analysis found in the work of Elinor Ostorm or Bonnie McCay. (I will cut short this list lest I offend by omission.) Understanding and achieving social sustainability will require that researchers reformat their prevailing attitudes toward disciplinary turf, and toward the way that economics, sociology, anthropology, geography, politics and philosophy bear upon one another. Hegel reminds us that wisdom, like the Owl of Minerva, only flies at dusk. We are still too early in the day for a comprehensive vision of social sustainability, but we must begin the cross disciplinary work that is needed lest wisdom come truly too late.

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CHAPTER 7

EPISTEMICS IN SOCIETY
On the Nesting of Knowledge Structures into Social Structures

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7.1 Introduction

Central to the experience of society in the late twentieth century is the idea that society rearranges itself. We no longer simply move forward toward a new stage of social development promised and specified by socialism. Instead we are plagued, many say, by a variety of ills: a sense of runaway risks and uncertainties associated with human intervention in nature (e.g. Beck, 1992); the widespread rethinking of the welfare state, "structural" constraints on economic growth and employment, the simulative consequences of the media and information technologies (e.g. Baudrillard, 1985). Society undergoes, we think, the last stage of individualization which increases our autonomy of action, but also brings with it the breakdown of the nuclear family and of communal relationships (e.g. Giddens, 1990). We also experience a redrawing of the relationship between global and local processes which produce conflicts, disjunctures and new forms of stratification (Lash and Urry, 1994: ch. 11). What are the implications of these "redrawings" of lines, of these replacements of nuclear units by subnuclear units, and of exploitable natural environments by exploitable human made environments (Merchant, 1983) for sociology? Does the rearrangement of society simply amount to a reorganization and realignment of given structures or do we need to reconsider the structures in terms of which we think society?

Rearrangements of the kind discussed do not involve a single process but a complex mixture of processes which cannot be analyzed within the scope of this paper. What I can do, however, is focus on a particular variety of structures that are implicated in some of the above processes. These structures pertain to knowledge. Directly or indirectly, many of the developments we currently experience have something to do with knowledge, or more concretely, with the effects of science and technology. They are bound up with the spread and accessibility of information, with the enablement and timespace compression of an international society through interconnecting technologies, with the expansion and unavoidability of expert systems in social life, and with the "pollutions" and "dangers" of a science produced environment in which knowledge and control have become dislocated. As an example, consider the unifying tendencies and the global "monotonization" of agriculture. This homogenization must be regarded as a consequence of science-based technologies through which local breeds, traditional styles of farming and architectures are increasingly replaced and reshaped by uniform and standardized elements delivered by an agribusiness (Leeuwis, 1993; Van der Ploeg, 1992, 1993). Awareness of such processes means a heightened sensitivity for the pervasiveness of knowledge issues in all

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domains of contemporary life. As Daniel Bell predicted in 1973, a post-industrial society is a knowledge society.

In what follows I shall begin to develop a "textural" analysis of a knowledge society. I want to ask questions about what belongs to the textures of such a society that is not fully or adequately dealt with in current discussions of the theme. To capture this dimension I will use terms such as "epistemics" or "epistementality" rather than knowledge (see also Foucault, 1991). As I shall argue below, I want these terms to capture the practices, relational issues and structures attending to knowledge and not the cognitive content of fixed knowledge, which is what the term "knowledge" suggests. Epistemic practices, in my view, turn around issues such as truth and objectivity; but they also turn around (knowledge) objects, imply constructive settings and the like. A focus on these issues brings into the open the problematic character of knowledge entities and structures; epistemics shifts one's viewpoint on knowledge into second gear, so to speak, it shifts it from viewing a fixed collection of things which are trustworthy in their "longue duree" and instrumental "readyness-to-hand" to viewing the open, unfolding and untrustworthy goings on behind, over and above the fixed and ready things (epistemics also brings into view the fixing process itself). Epistemic conditions could mean, for example, conditions in which sociality is shifting from personal relations to object relations; in which truth has become deracinated (freed from its empirical grounding and placement in the care of science) and deregulated, in which the real is fused with the constructed and simulated and this becomes a condition of knowing. To clarify the difference between this viewpoint and others I will first briefly recall some prominent conceptions of knowledge in society. I will then explain the stance I am taking on knowledge systems and illustrate further what I mean by epistemics. The last two sections will give examples of concepts and analyses which become relevant under the present approach.

7.2 Knowledge in society: Past and present conceptions

Ideas about linkages between knowledge and society are not new in sociology; in the past, they have been bound up primarily with theories of modernization and industrialization. A number of seminal commentators have discussed how modernity depends on knowledge. One just needs to recall Marx' definition of technology as a productive force, or the relationship Weber saw between modernization and processes of bureaucracy which he also specified in terms of technical competence and knowledge-based rules ((1922)1976:128ff.,565). Central to modernity is the idea of industrialization, which is intimately tied to the rise of modern technology, to scientific rationality and to knowledge related processes of rationalization. In the phase of sociological theorizing that followed, the themes of rationalization and of technology did not disappear from the work that unfolded under the Marxian and modernization theory rubric. But at the same time, differentiation theory forcefully brought another picture of knowledge in society into theorizing, which henceforth became central to the field. Differentiation theory conceives of society in terms of the differentiation (and interchange) between specialized subsystems

such as economies and polities. As a consequence, it has tended to see knowledge issues as functionally confined to one such system, science, and its specialized logic of procedure. Differentiation views also inform practice theory when it endeavours to think modern institutional society. Accordingly, not only systems theorists such as Niklas Luhmann but also practice theorists such as Pierre Bourdieu display a certain inattention, if not indifference, to the pervasiveness and intricacies of knowledge issues in modern life. When these authors discuss knowledge, they discuss a demarcated structure to which they extend their theoretical vocabulary (Bourdieu, 1975; Luhmann, 1990). What the system (or field) approach to knowledge lacks is a good conception of the spatial dispersion of knowledge structures in social life, or, if you wish, of the implosion of knowledge processes into society.

While differentiation theory relegated knowledge to a subarea of society, some transformation theorists continued their articulation of a wider role of knowledge in society. For example, Schelsky introduced the notion of a "scientific civilization" to depict modernity (1961), and in the 70s, Bell rekindled earlier discussions by linking theoretical knowledge to what he termed a new stage in societal development, the "post-industrial" society (1973). Theoretical knowledge, for Bell, is knowledge that can be translated into many practical circumstances. Though all societies rely on knowledge, dependence on theoretical knowledge as a source and mode of innovation - in science-based industries such as computers, telecommunications, optics, polymers and electronics - is new. Bell also makes a plea for a historical reversal of the base-superstructure relation: changes manifest in economic structure are the product of cognitive effort, and not the other way round.

More generally in transformation theories the immediate impact of knowledge is on the economy, and result in such changes as shifts in the division of labour, the development of specialized occupations, the emergence of new enterprises, shifts in economic sectors and sustained growth. Socio-structural processes are not generally seen as the immediate target of knowledge consequences.

The transformation theory line of thinking is redressed today by theorists of reflexive modernization, who show a heightened sensitivity to concepts such as expert systems and technological risks (Giddens, 1990:28,34f.; Beck, 1992; Lash and Urry, 1994). For example, Beck (1992: 156) and Krohn and Weyer (1994) talk about the anticipatory application of scientific problems before they have been fully explored in the scientific laboratory: testing, in the risk society, occurs after application, society becomes an extended laboratory for science. Yet the central themes of reflexive modernization theory often bypass knowledge issues, or rely on astonishingly orthodox notions of knowledge and experts. For example, Beck (1994) defines reflexivity primarily as the self-confrontation of late modern societies with the (negative) consequences of their behavior. While scientific-technical elites play a role in this picture, their conception is not advanced beyond the one that was present in earlier discussions of technocracy: Beck speaks of an alliance between scientists and capital and sees scientific-technical elites as being on the side of the villains, of the producers and shareholders in the environmental threats that confront modern societies (1992). When reflexivity is understood as

reflectiveness, Beck sees it as bound up with the process of individualization and the increase of options, awareness and calculation this offers to actors--in other words, he conceives of this kind of reflexivity in terms of individual cognition. Lash and Urry (1994) equally understand reflexivity in relation to individualization, as the progressive freeing of agency from structure. In addition, Lash and Urry emphasize aesthetic forms of reflexivity exemplified by TV and movie productions which provide society with visual images of itself. Among reflexive modernization theorists, it is mainly Giddens (1990, 1994a,b) who links reflexivity directly to knowledge: for him, knowledge provided by expert systems acts as a medium of interpretation and reflection in what he calls post-traditional societies. Giddens, like other theorists of reflexive modernization, has substituted a concern with individuals for the concern with the economy in earlier transformation theories. Though Giddens allows that institutions are themselves reflexive, for him "a world of intensified reflexivity is a world of *clever people* (1994b:7) -- of individuals who engage with the wider world (and with themselves) through information produced by specialists which they routinely interpret and act on in the course of everyday action. Giddens thus recognizes that knowledge in current Western societies is not confined to specific groups or to a particular function system. But his focus on reflexivity as the monitoring of the conduct of the self or of other agents brackets the inner working of knowledge processes. Giddens considers only the use to which expert systems are put in discursive interpretations, and their functioning as a disembedding mechanism which removes social relations from the immediacies of context (1990:28; airplanes, for example, are expert systems).

7.3 The design stance on knowledge, and what it might mean to switch from knowledge to epistemics

Compared with the systems model, the conception of modernity as an expanding place for knowledge-related reflexivity goes a long way toward erasing the boundary between science and society. But reflexive modernization theory, much like earlier theories of modernization, is not interested in articulating a theory of knowledge. As Stehr (1994:275ff) has pointed out in a review of Bell and other authors, the most specific form of knowledge of modern society, scientific and technological knowledge, appears like a mysterious natural force precisely in those theories for which science and technology is central to social change. Science and technology are seen as dynamic and expanding, but their very "progress" is a static, unanalyzed concept. When science and technology are taken to be an explanatory source in our understanding of post-industrial or post-traditional society, their dependence upon and penetration by social, historical and cultural processes is usually excluded from consideration. Yet we have no warrant for thinking of either science or technology as a coherent, general, lawlike phenomenon that can be blackboxed and treated wholesale in social theory. Technology, even information technology, is not all of a piece, it does not follow a single path, it is not an engine made up of integrated machinery. Nor is science. When the last two decades of research on

contemporary and historical scientific and technological practice have opened the black box, they have identified very different epistemic cultures, a notion that puts into question unified conceptions of the forces or impact of science and knowledge (see Knorr-Cetina, 1991, 1996). We also have no warrant to believe that the social-historical constitution of scientific and technological facts can be kept separate from how these facts "enter" or "operate in" social life. It is plain enough that many pieces of technology and science are socially constructed for specific practical contexts, and they are also constructed in these contexts. Furthermore, certain practical contexts have themselves become like the scientific environments we used to identify only with science, and now embody scientific principles of reality construction, reflexivity, experimentation, and the like.

Reflexive modernization theory, much like earlier transformation theories, adopts what one might call, following Dennett (1987:16ff), the *design strategy* of interpretation with regard to knowledge. From the design stance, one ignores the details of the constitution of a particular domain, and, on the assumption that the domain is designed to produce a particular outcome, considers only its output and its particular relevance to one's purposes. Dennett's example is the computer: most users of computers do not know, nor do they need to know, what physical and informational principles are responsible for the computer's behavior. But if they know what a computer is designed to do they can predict its behavior and use it reliably for their purposes. Modernization theorists do not know or care to know how the knowledge systems they incorporate into their arguments work, which structures or principles adequately describe this working, or how the "knowledge" dealt with in these systems ought to be specified. All they are interested in -- and perhaps all that they needed to be interested in the past -- is the power and social positioning of these systems and of their outcomes within processes of societal transformation. But what, to revert back to the example of the computer, if society were suddenly to become reengineered such as to run on the same principles and mechanisms as this device? Then, to understand this particular transformation of society, we would need to understand how computers work and not merely what uses they can be put to. It would no longer be sufficient to adopt the design strategy of description and explanation toward computers. We would have to inspect their inner tissue of electronics and information processing, and try to describe the principles on which they run.

The argument can be extended to the role knowledge plays in society. If present Western societies can adequately be called knowledge societies, this might simply mean that the expert systems within them have multiplied, that people and institutions increasingly rely on experts for analyses of situations and councelling, that corporate bodies of scientists have gained power transferred to them from parliament, parties and legal institutions, and so on. It might mean that "knowledge" has become a productive force that drives the engine of economic growth and swamps us with technological gadgets, as it does in the old logic. But it might also mean that knowledge systems have spilled their tissue into society, that it is not just knowledge-products and their consequences we need to be worried about but knowledge structures, the whole set of processes, experiences and relationships that "wait on" knowledge and unfold with its articulation. From this perspective, the very idea that one can black-box knowledge

processes and consider them only from the design stance is theoretically no longer adequate. It is more effective to switch from the design stance to what I want to call the *unfolding stance*, where one inspects the processes that unfold a system and that are responsible for its performance.

The relevance of the unfolding stance for the present purpose derives from the assumption that it is the structures and processes as much as the cognitive and technological products of knowledge which have become central to, and sometimes co-extensive with, contemporary institutions. The unfolding strategy assumes that what hides behind terms such as "expert system," "knowledge" or "science" has a structuring force that operates on the "being" of contemporary societies--it affects the forms of ordering and existence constitutively involved in what contemporary Western societies *are*. What, for example, are the constitutive forms of social relations in a "knowledge society?" Are these adequately dealt with by the contrast between (former) class relations and (today's) individualization? Can the impact of knowledge elements in social life be limited to increasing the reflexivity of individuals and given structures? And if the answer is no, how do we understand the new structures?

What I am suggesting is that we have to analyze the nature of the discontinuities between modern, industrial society and a knowledge society on the level of the texture and the structuring of contemporary institutions. To give an example, the problem is not only that continual inputs of knowledge and its consequent technological risks affect the life and actions of individuals and groups. The problem is that we may have to change our notions of individuals and groups to get at the "being" of these societies. Similarly, it is no longer clear that the best model for contemporary localizing arrangements is Weber's notion of bureaucracy, which still informs, despite many revisions, organization theory (see below). Perhaps the best model for these arrangements is the farm or the laboratory, notions that emphasize object-relations. The suggestion to unfold the texture of knowledge societies need not rule out design stance approaches to knowledge; it simply draws attention to structures whose inspection the design strategy continually defers: to the "galaxies within" complex entities called "knowledge," which have long spiralled out into contemporary institutions. The design stance, of course, is effective precisely because it can analyze knowledge uses while at the same time deferring disclosure of these processes. But it reaches its limit when one can make the argument that knowledge structures unfold into society and change the texture of contemporary institutions.

Epistemic conditions in society are such conditions. I choose the term epistemics rather than knowledge to break away from considering merely the impact of knowledge products or knowledge elites on social change. I shall also want to break away from what Lash and Urry (1994) call the cognitive bias apparent in social thinking when notions such as knowledge or knowledgeability are central to theorizing. Epistemics, when used in philosophy (where it is mostly used), also entails a cognitive bias. But this can be helped if we recall that the term not only denotes the problem of human understanding (e.g. Toulmin, 1972), but refers, in a larger sense, to the question how we know what we know. If we stress the "how" rather than "what" in this definition and assume that the "how" in modern knowledge systems centrally involves institutional processes rather than

merely "thinking," we move suitably away from the philosophical conception of epistemics. Epistemics, I shall say, is about the *infrastructures* of knowing and world making. Epistemics involves reality articulating systems and policies; is bound up with shifting notions of truth and objectivity; is connected to objects and the material world which bears the brunt of our organized epistemic activity; and has to do with the structure of constructive and creative practice. Current Western societies, I want to maintain, are societies charged with such processes. They place a high value on world-making (they are constructive) and some of their central themes concern truth and world/object relations. They are not thereby solely epistemic societies, but can simultaneously be characterized by other processes which may act in contradictory ways: I merely argue that some of the "hot" transitional processes in the cultural logic of late capitalism, to choose Jameson's phrase (1991), are processes of epistemization.

On the present account, industrial society should not have been strongly "epistemic", but Hacking's systems of memory politics are. Bell's post-industrial society might be seen as "epistemic," but it might also be simply seen as a knowledge society in which knowledge drives economic growth. The way I have set it up epistemic conditions refer to particular states and arenas in knowledge societies: to situations where knowledge structures and practices unfold in different ways in daily life and define the social fabric. What the structures are and how they unfold is contingent: "Epistemics" should not be seen as a single overriding dynamic of transformation, but can simply be understood as a placeholder term that conveniently summarizes the textural/structural fallout of the advance of knowledge in society. I want to suggest that this fallout of society-texturing elements comprizes a shift from personal and social relations to an object-centred sociality; it comprizes the deregulation of truth and at the same time an approach to problems of identity and existence based on knowledge/truth-procedures; it comprizes a notion of reality that is constructively expandable and stageable, and so on.

7.4 Object-centered sociality

To exemplify all of this is beyond the scope of the present paper. What I can do, however, is point out two possibilities for notions that are consistent with the idea of an expansion of "epistemics" and its impact on forms of existence and forms of order. One starting-point could be "combination structures", structures that show the nesting of knowledge elements within forms of social practice. The structures I want to discuss pertain to the object-relationships I mentioned. In the rest of this section, I will explain the notion of an object-centered sociality. In the next section, I turn to a discussion of laboratories, which can be understood as object-centered, constructive variants of the notion of organization.

The notion of an object-centered sociality attempts to break open such concepts as that of an "expert," of "technical competence," of a "technical elite" or an "expert system." It takes its lead from the kind of relationship that develops between experts and objects of expertise. What are objects of expertise? Consider a suggestion by Rheinberger

(1992:310), who calls epistemic "things" any scientific objects of investigation that are at the center of a research process and in the process of being materially defined. He distinguishes these from technological objects, which are fixed; technological objects serve as stable moments of an experimental arrangement. Rheinberger here draws upon the classic distinction between the ready-to-hand, unproblematic, and often industrially produced technical instrument and the question-generating research object on the way to becoming a technological object. This distinction, however, is highly problematic in light of today's technological products, which are simultaneously things-to-be-used and things-in-a-process-of-transformation: they undergo continual processes of development and investigation. Computers and computer programs are typical examples; they appear on the market in continually changing "updates" (progressively debugged issues of the same product) and "versions" (items marked for their differences to earlier varieties). These objects are both present (ready-to-use) and absent (subject to further research), the "same" and yet not the same.

I shall borrow the notion of an epistemic object from Rheinberger, but change it to mean any technological, scientific or natural object (e.g. a garden) that is part of a process of revealing and articulation related to knowledge. The term seems to me to be well-suited to shifting the discussion away from conceptions of technology as black boxed and "steel hard" industrial products. Epistemic objects are characteristically open, question-generating and complex; they are processes and projections rather than definitive things. Observation and inquiry "reveal" them by increasing rather than reducing their complexity. Epistemic objects are also, and this brings me back to the original issue, stories of intelligence, learning, biographical change, of autonomy, resistance and partnership with respect to the persons that work with these objects. These stories are the upshot of relationships experts and others have with objects. In other words, the "revealing" of objects is rooted within structures of care (Heidegger) and desire (Lacan) without which (technological) objects do not unfold. Such structures of care and desire form the basis of what I have called object-centered-sociality.

What I am contending is that these structures of care and desire must be considered serious candidates for additions to the interpersonal relationships we generally assume in sociology. One might speculate that we are witnessing a transition from objects conceived as commodities (to which we have an external, instrumental relationship) to objects understood as "consociates" (Schutz) in contemporary everyday life; that the recent literature, from Carolyn Merchant (1983) to Appadurai (1986) and Callon (1986), Latour (1993), Sheldrake and Serres (both 1990) that requests us to reconceive the material world in terms of human-likeness points to this transition; and that as objects are generally inflated upwards (receive attributions of human-likeness and change into temporal, "soft" beings, see Porush 1985), an object-centered sociality becomes a plausible concept also among those who were originally non-experts. Perhaps objects must also be considered the risk winners of the "relationship risks" and problems so frequently diagnosed in contemporary marriage, the family and the community (e.g. Giddens 1994; Etzioni 1994) . If there are substantial deficits in human sociality, is an object-centered sociality substituting for it? It is clear that we are coupled to objects

through the phenomenon of objects "mediating" (Calhoun 1992; Wise 1993) almost everything we do, a point repeatedly stressed by Latour (e.g. Latour and Johnson, 1988). But what I am indicating here is not the ever-present totality of objects within which we exist and through which we make our living. Rather, the notion of an object-centered sociality refers to specific forms of relationships whose existential features are intimacy, temporality and knowledge -- forms of togetherness and revealing over time. To understand these relationships, the major linkage we have to consider may not be the Foucauldian linkage between knowledge and power. Though object-relationships provide "sites" for power-issues to latch on to, the nexus of interest appears to be that between knowledge and intimacy and desire. The Foucauldian question of how knowledge encoded in institutional and organizational practices disciplines the body and regulates the mind and emotions to create the productive worth of individuals may be of lesser interest today than it was historically. Arguably, "disciplining" individuals through knowledge/power is an important dynamic in industrial society, but a "knowledge society" might well rest on a different dynamic. For example, it might rely on stimulating individuals to enter absorbing and "revealing" relationships with knowledge objects. An object-centered sociality pertains to the productive worth of the stimulated conjunctions of objects/subjects. More generally, it concerns a society in which object-centered relationships matter, compete with human relationships, and form order strings that crisscross other formats of existence and order.

7.5 Constructive locales and knowledge organizations

Now the second area in which the linkage between epistemics and the construction of social orderings can be observed. Epistemics can be linked, in Lyotard's terms (1991:48), to the "spatialization" of knowledge. For example, a scientific laboratory is a material repository of previous scientific and technological understandings. It conserves past knowledge by turning it into a material opening for its reactualization in the construction of new knowledge. What if we similarly consider the contemporary organization as a knowledge space reproducing within its boundaries other knowledge spaces (research departments, analysts' groups, information networks, automated production processes, and the like)? In other words, what if we liberate ourselves from the Weberian legacy of interpreting organization mainly as rational-legal structure centered on human groups? In the remainder of this section, I shall discuss the possibility of a notion of constructive locales that are "pastorates of knowledge".

What interests me here is the notion of a "laboratory" as developed within the so-called laboratory studies, a branch of recent sociology of science (Latour and Woolgar 1979, Knorr-Cetina 1981, 1992, 1994). The laboratory is the "fact factory" of modern science. It is a long-underexplored site of investigation for finding out about science as "practice and culture" (Pickering, 1992), as opposed to the study of scientific theories and the history of ideas. But the laboratory is also a notion of some interest from a perspective on epistemics in society. It denotes the possibility of theorizing a type of

knowledge-based, post-traditional organization that is empowered by the object world which it partially instantiates. The notion of a laboratory circumscribes a "space" in Giddens' sense (1990:18): though laboratories are frequently physical locales as situated geographically, they can also be locationally distant from a given situation, for example when created by electronic connections. The "space" of a laboratory should not be characterized merely by its boundedness or by the relations between participants. Rather, we have to identify the dominant sources of the dynamism of laboratories. I take one such source to be the "knowledge content" of laboratories -- the phenomenon that laboratories define dense packages of previous knowledges and know-hows ready to be translated into new knowledge. The knowledge content of laboratories is itself based on reconfigurations of what Merleau-Ponty calls "Self-other-things" (Moi-Autrui-les choses, 1945:69), that is on alterations of social and natural structures and entities and their relation to each other. The reconfigurational idea sets the laboratory in relation to a (social and "natural") environment from which the laboratory world distinguishes itself. Thus, a scientific laboratory is precisely not a continuation of the natural order in an intramural place. Rather, it is constituted by specific differences to it. For example, through the transition from whole plants grown in fields to cell cultures raised in scientific laboratories the processes of interest become independent of seasonal and weather conditions, miniaturized, surrendered to social order time scales and work organization, and highly accelerated. Boundaries of natural objects are dissolved, highly structured entities regain something of the vagueness and openness of their immature states, processes and entities become alterable, comparable, construable. In other words, the ontology of natural objects changes in relation to the social order of the lab. Equally, social entities and relations undergo refiguring in laboratories, with the consequence that these facilities must also be seen as "social" laboratories: as spaces where certain social ontologies and structures emerge in relation to and conjoined with an object world and where these structures are articulated, "tried," and replicated.

Scientific laboratories derive epistemic dividends from their reconfigurational accomplishments. These effects of laboratories need to be accomplished, and they have obvious costs manifest in the difficulties encountered when laboratory results are translated back into assertions about "natural" organisms and systems. Nonetheless, the "constructive power" gained from processes of laboratorization is enormous, and may help explain the "advances" attributed to strong laboratory sciences such as biotechnology over "field" disciplines such as agricultural science (Busch et al., 1991).

I want to suggest that one can see the paradigm "locale" of contemporary "post-industrial" society as having similar constructive powers. This makes the laboratory the epitome of contemporary localizing arrangements, much as the (bureaucratic) organization has been, according to Weber, the epitome of earlier periods of modernization. Recall, for a moment, the features Weber associated with modern organizations. As Parsons noted (1947:59), Weber's starting point is the organization of authority within the corporate group. A strict distinction between private affairs and office, governance and conduct by impersonal rules, obedience channelled through hierarchy, and contractual employment relationships rather than the inheritance of an

office or the election into it are characteristic of this form of authority. Weber best specifies this in the list of criteria quoted below according to which the staff functions in "the pure type" of rational-bureaucratic organization (1947:333f.):

1. (Individual officials) are personally free and subject to authority only with respect to their impersonal official obligations.
2. They are organized in a clearly defined hierarchy of offices.
3. Each office has a clearly defined sphere of competence in the legal sense.
4. The office is filled by a free contractual relationship.
5. Candidates are selected on the basis of technical qualifications. (...) They are appointed, not elected.
6. They are remunerated by fixed salaries in money, for the most part with a right to pensions.(...) The salary scale is primarily graded according to rank in the hierarchy (...).
7. The office is treated as the sole, or at least the primary occupation of the incumbent.
8. It constitutes a career. There is a system of 'promotion' according to seniority or to achievement, or both. Promotion is dependent on the judgement of superiors.
9. The official works entirely separated from ownership of the means of administration and without appropriation of his position.
10. He is subject to strict and systematic discipline and control in the conduct of the office.

Weber also mentions technical competence as a basis for bureaucratic efficiency and states that bureaucratic organization is "essentially control by means of knowledge" (1947:335,337). Yet as Parsons pointed out many years ago upon the translation of Weber's work into English (1947:59), technical competence and legal competence call for different kinds of organization, a problem that Weber ignored by lumping the two kinds of authority together. Weber of course was trying to separate out the rationalized system of modern authority from the types of authority and legitimacy of a traditional order. Today we need to specify "post-traditional" (Giddens, 1994) systems of work and coordination that correspond to an altogether different logic. The ideas that denote a laboratory cannot be coded in terms of the problems of obedience and legitimacy of control that motivated Weber and that arise when custom or affective ties no longer form the basis of solidarity. Some of today's most elaborate experiments are conducted by scientists who are not even employed by the lab in which the work is performed, and who are not bound together by any legal framework. Nor can laboratories be analyzed in the terms that are central to the recent literature on organizations. It is plain that this literature (and earlier authors) significantly enlarged Weber's picture by adding, for example, flexible work arrangements, vertical disintegration, slimming and flattening of organizational hierarchies and (inter)organizational networks and relations (e.g.Perrow 1984; Massey 1984; Lipietz 1992; Drucker 1988). Nonetheless, the concept of organization essentially remains a concept of the coordination of human groups needing to work together on a common task. Laboratories, however, are not only about the

coordination of human groups but also about some form of localized coordination with nature from which knowledge arises. While some of the above concepts clearly apply to laboratories (organizations in general have become more like laboratories, see below), the "irreducible core" of a knowledge organization such as a laboratory are the mixed communities of experts and expert objects in which knowledge is instantiated. We need to conceptualize these communities in ways which do not assume away the rich processes and relationships between the respective entities through the simple presupposition of the technical competence of expert workers. Technical expertise not only requires a different mode or coordination, it is also fueled by the relationship an expert established with an object world, as indicated earlier. This suggests that laboratories, and more generally knowledge organizations, are object-centered -- rather than group-centered -- formats of social organization: they are locales that crucially involve objects in alternate, reconfigured, epistemically opened states from which knowledge benefits accrue; habitats of "mixed" systems of care and attention developing around material entities, and places where the governance of organizations crucially works through manipulating "problem content" rather than merely people or structures. In sum, even a short list of sample characteristics of laboratories might look quite different from the features emphasized by Weber:

1. A distinguishing characteristic of laboratories appears to be the determinate presence of object worlds in the form of substances, organisms, instruments and so on. This object world is empowering, the source of the technical competence and achievements of workers in the lab.
2. With respect to their existence in a natural environment, laboratory objects are transformed and refigured. Thus the laboratory is not simply a continuation of the natural order in an intramural place. Rather, it is constituted by specific differences to it. Such differences exist also with respect to the relevant aspects of the social order, to a laboratory's own earlier states and to similar laboratories. The underlying reconfigurations need to be continually accomplished and are a source of the dynamism of laboratories.
3. In laboratories, elements that have separate histories and are embedded in different registers and regimes are brought together in new "conjoint" developments. Thus laboratories can be seen as "cultural switchboards" that merge and redirect cultural entities and forms of life. Whereas the reconfigurational notion indicates the alternations that define laboratory worlds, the notion of a switchboard stands for the image of joining and decoupling through which some registers are suspended and others reinforced and created in laboratories.
4. Laboratory work is based on principles of double (and multiple) "invention" of reality rather than simply on instrumental action. These multiple inventions sustain the solidity and acceleration of laboratory results. Examples are the socializing technologies of conversation and writing on the one hand and technologies of nature on the other which are both brought to bear on laboratory results.
5. The technical competence of workers in laboratories results from the little systems of desire, resistance and consumption created between them and natural or technical

objects. These object systems absorb and generate the emotional energy (Mitroff, 1974) and motivation that sustain expert work. For knowledge workers, the Heideggerian distinction between taking care of things (besorgen) and care for human beings (fürsorgen) might be seen as problematic, if not reversed.

6. Given the technical competence of workers, a laboratory organization tends to be "flat," not based on hierarchical relationships between managers and workers. On the other hand, problems of coordination do not disappear but rather shift from the vertical to the horizontal plane: the issue now is the organization of simultaneity. The questions today are questions of collaboration between experts or expert groups. For examples as to how these questions are resolved in a "world laboratory" (CERN in Geneva) see Knorr-Cetina, 1996).

Consider now for a moment the mixed systems which may need further clarification. Laboratories, I said, can be seen as cultural switchboards that create and shape combination structures, structures that combine elements from different contexts. Thus laboratories not only shift natural objects into new evolutionary gears by first destructuring and "regressing" them and by then developing them in alternative directions. They also bring social and natural (and yet differently classified) entities and processes together to create durable conjunctions that develop joint biographies of their own and include their own constructive dynamics. These conjunctions involve the object-centered sociality discussed before. But they also result in what I shall term "object systems," systems of embodied and discursive practices governed by certain objects and their evolution which are decoupled from particular researchers. An object system might evolve around a particular biological organism, such as the fruitfly Drosophila, which has been used for many decades thanks to the special opportunities it offers for genetic analysis (see Kohler, 1994). Or an object system might involve a particular type of machine, such as a computer or detector, which develops in "generations" (each generation springs forth from the previous and includes much of its technology), usually to higher energy, speed or processing capacity. Rheinberger (1992) describes a macro-version of these systems (which he calls experimental systems) in his work on in vitro protein synthesis established since the late 1940s. Rheinberger also calls these systems "machines for making the future", an idea taken from Jacob (1988:9). Object systems are marked by constant change; neither the objects nor their analysts are "finished" knowledge products, but rather entities in the process of continual learning, adaptation and refiguration. I have stressed before that the objects in such systems may result from breaking open natural entities, from reversing states of adaptation, from retrieving earlier, more embryonic or partial forms of existence from whence developments can unfold in different directions. Hence object systems are not expert systems in the sense of an expertise that is objectified in machines, software, or professional knowledge and that is ready-made for application. Object systems not only produce knowledge, but also raise new, unanswered but answerable questions. While they are based on a version of what Baudrillard (1994:10ff.) calls "the illusion of the end" (e.g. the end of a particular piece of research), what they routinely arrive at is something

else -- new prospects for activities and meaning that lay open (in the sense of opening up and interpreting) a next or next-to-next development step. Entities within object systems are stimulated (tested, provoked), unfolded and interpreted to resist the end of their history.

What little I have said about object systems may perhaps suggest that object systems are implicated in interesting ways in laboratory activities and warrant further study. Within the traditional restricted vision of organizations, these systems are blackboxed, "covered" by phrases such as "the factor of technology", "technical competence" or "organizational expertise". They are also covered up rather than disclosed by our vocabulary of instrumental/rational action. Instrumental action is commonly thought to organize means to an end subject to conditions of success. It is related to a specific mode of orientation toward the world, which Habermas, taking his lead from Heidegger and phenomenology, described as an interest in technical control (e.g. 1971). But linking activities in a laboratory to a specific form of intentionality and to means-end rationality tells us little about the internal working and dynamics of object systems, about their evolution, their temporality, the ways in which these systems continue to generate innovations. The conceptual forebear of laboratories, I imagine, might well not be the artisan's workshop but instead something closer to an ecological niche, which I shall term a pastorate. In a workshop, human beings trained in manual dexterity skillfully manipulate things which are the passive targets of instrumental action. I see the pastorate as a field of intervention in which success depends on relationships of care and desire and which is less a rational truth-finding engine than a field of practice whose normative foundations are operative fictions. In a pastorate, alternate object worlds (which Amann calls "laboratopes," 1994) are "cultured" together and script human practice, much as human practice is scripted into the existence, biography, response and effectivity of inanimate and animate object systems. Pastorates involve "laboratopes," ecological niches for objects to develop in tightly administered artificial ecologies. The mixed scripts of these hybridizations and creolizations, and the mutual reconfigurations they entail, distinguish the concept of a knowledge-centered organization from the concept of a group-centered organization.

From a perspective on epistemics in society, laboratories - and processes of "laboratorization" - must have a key position in the lexicon of analytic concepts. They provide for a notion of space that coincides with the constructive focus of some organizations, and that makes room for the epistemic dimension of contemporary society. Laboratories are no longer limited to science or technology. The clinic, the stock exchange, the farm (Leeuwis, 1995) and modern corporations also show features of laboratories. In an article published in 1988, the management scientist Drucker suggested that the "typical large business" organization of the future would not only be knowledge-based, but would look more like the organizations of specialists (e.g.the hospital or the university) to which the notion of a laboratory might be applicable. Drucker (see also 1993) is concerned with the impact this change toward a knowledge-based organization has on management functions and needs. Our very definition of experts, or "knowledge workers", is that they know what to do, and know it

better than any manager or executive in a superior hierarchical position who holds the right to tell them what to do. While Drucker (1993:97ff.,62ff.) thus predicts that "the organization of the future" will need few managers and will have to convert from a control-based to a "responsibility-based" organizational structure in which members take upon themselves the full responsibility for their contributions, he does not discuss the new power-base, knowledge, and its formats of development. The good news, then, about Drucker's argument is that it recognizes the need to change our concept of organization as a very consequence of its shift to knowledge. The bad news is that Drucker, like others who have started to talk about knowledge as an axial principle of modern society (see Beck et al., 1994) "assume away" knowledge, thus leaving a substantial deficit in any "new" theory of organization.

The above suggestions emphasize an expansive, dynamic view of constructive spaces. They emphasize features that differ from the rather static, inertial qualities which Weber associated with bureaucracy, and which traditional organizations sometimes seem to have. They also depart from ideas which associate the local mainly with the particularities and immediacies of context, with small scale, or with personal interaction. The notion of a space which appears of interest from a viewpoint of epistemics in society refers to a constructed world imploding into itself --a world multiplying and translating itself inward, possibly acting as a template for transcriptions in an external environment, and based on the reversal and distantiation from external trends and its own previous specifications.

7.6 Postscript

In this paper I have argued that we have to analyze the nature of the discontinuities between modern "industrial" society and a knowledge society on the level of the structuring and "practicing" of modern institutions. The concept of knowledge societies, I believe, needs to be linked to an understanding of the working of epistemic processes: for example, to the nesting of knowledge structures into social structures. Some recent authors have given much attention to the consequences of an increase of knowledge processes in society: to the consequences of more experts, more technology, higher risks, more information - on life style, on communication, on politics, on reflexivity and on accumulation. In this paper, I have taken a different route. I have focused on how "knowledge structures" rebuild "social structures" from within. I have offered two concepts to discuss this rebuilding: the notion of an object-centered sociality and the notion of a laboratory.

Both concepts point to an enlarged role of objects in our institutions and in our vocabularies of structure. Is this then where we are heading in Giddens' (1994) "post-traditional" society? In reply to any such assumption I should like to offer a little deconstructive remark. While the structures I discussed point to object worlds, other processes point to a new role for social mechanisms and social regulations. Consider the "deregulation of truth" (the apparently increasing uncertainty as to what is and should be counted as true) which we can witness today in scientific consensus-formation, as well as

in everyday decision-making. Such an uncertainty may suggest that the empirical world no longer serves as the court of appeal that guarantees closure in consensus processes; that the social conditions that suspended radical doubt in such appeals in the past no longer obtain; that the (previously implicit) sociality of such processes becomes thoroughly exposed to view; and, as a consequence, that processes of consensus formation may become more subject to explicit social regulation. In this scenario, the deregulation of truth amounts to a (re)socialization of truth. The "naturalization" of the social which concepts such as that of an object-centered sociality may suggest has to be assessed in the light of the "resocialization of nature" which other developments bring forth. Perhaps the most interesting feature about "post-traditional" society continues to be, despite globalization, that of its (structural) fragmentation.

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CHAPTER 8

RESEARCH CHALLENGES FOR THE MANSHOLT INSTITUTE

E. Pierhagen*

I am very pleased to be here at the opening ceremony of the Mansholt Institute. An institute set up to establish new links, monitor developments and point out their consequences for agriculture in the Netherlands. An institute, in short, with a vision. By no means a static one, but one which moves with social and political developments at home and abroad. One not afraid to go against traditional opinions. One with the courage to revise its own views if necessary. Very much in fact like Mr Mansholt after whom this institute was named. His views were dynamic like the environments of agriculture.

When Mr Mansholt was the Dutch Minister of Agriculture he was a champion of economies of scale and increase of production. This was necessary at the time to secure food supplies and to make sure that farmers had a reasonable income. It was this that was behind the first Mansholt Plan, of 1953, which was instrumental in giving shape to the European Agricultural Policy. When Sicco Mansholt was Agricultural Commissioner in Brussels he saw that farmers' incomes lagged behind those in other sectors. Then, in 1968, Mr Mansholt published his second Plan: a rationalization of European agriculture. Farmers who could no longer work efficiently had to go. Those who stayed would then be able to run their farms in the best way possible. Early retirement schemes had to be introduced for older farmers, training schemes for younger ones. This second Plan was finally approved in 1972, though in a much watered down version.

In the meantime, however, Mr Mansholt had not been idle. In 1971 he concluded that if production were to increase at that rate, the risks would be enormous. In the 1980s therefore he championed the quota system. With the fall of the Berlin Wall, Sicco Mansholt changed course again. The answer for agriculture now lay in structurally sound family-owned businesses with environmentally friendly production methods and decoupled income aid.

This illustrates how the man always kept an ear to the ground, how he showed the courage of his convictions. The same approach should be adopted by the Mansholt Institute. Keep your eyes open to what is going to play a role in the future, recognize the dynamics of society, analyse developments, see their consequences and find alternatives. Major developments are going on, on national and international levels. Developments like internationalization where blocs are no longer clearly defined. Then there is the population increase and the widening gap between the haves and have-nots. We also see how the developments in information and communication make the world smaller. You as an institute will be confronted with these questions as well. There are global problems like the population increase and the distribution of food, a world population that will

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increase by 25 per cent over the next twenty-five years, especially in Africa and Asia where poverty is common, and in China where population increase is accompanied by a decrease in agricultural land which is needed for houses and roads. Agriculture in Africa and Asia makes heavy demands on natural resources. Overgrazing, deforestation and the degradation of agricultural land make poor areas even poorer. This is in contrast to what we find in Europe. There we see that land is taken out of production to get production volumes down. This situation should be analysed and answers should be found. What is the position of the Netherlands in all this? How can we help to solve such global problems?

Closer to home we see the consequences of the fall of the Berlin Wall, an event that had an enormous impact on central and eastern European thinking. Instead of a planned economy people now have to think in terms of a market-led economy. Within the EU it has obvious consequences for the CAP. The eastern expansion of the EU is something that is going to happen. We can make access conditional on the proper organization of internal administrative and economic relations, but what do we do if the political situation in the central and eastern European countries destabilizes again and access is accelerated? A drastic review of the CAP is something to be reckoned with. With increased diversity, generic aid schemes for areas and sectors are likely to become a thing of the past. Aid will have to become more specific. CAP reform discussions will probably see a polarization between those supporting a market policy and those in favour of a rural policy. A policy that aims to keep the present structure of rural areas intact with a market and pricing policy will entail high costs for the EU.

In my view European agriculture should be market-oriented, in touch with world markets. A Fortress Europe is not the answer. The answer lies in the stabilization of markets. Stable prices mean stable incomes. This may be one of the classic issues but is still a topic today. Do we seek stabilization through curbing production or through price reductions compensated for by means of direct payments? This is an important question for the near future. Some of the member states will give priority to a rural area policy. They fear that if Europe opts for an agriculture which is able to compete in world markets, a split will occur between intensively farmed areas and areas where agricultural production is less viable. And in the latter areas no doubt problems will arise: areas that suffer from depopulation, areas where new sources of income must be found. Here, too, there is a role for research. Developments in Europe need to be analysed and the consequences for agriculture pointed out.

What we also have to take into account are the developments in the southern Mediterranean. The competition with our greenhouse horticulture is seen by many as a threat. With the more favourable climate, cheaper labour, less stringent environmental regulations, especially on pesticides, and a laxer policy for labour conditions, it is indeed difficult to compete. However, with our expertise and spirit of enterprise surely this challenge can become an opportunity for making products with a difference. Here we come upon an important research area: that of looking for opportunities to strengthen our competitive edge.

Change takes place not only internationally but in our country as well. And not only in agriculture but at all levels of society. These changes have effects on land use. The competing demands for space is an issue which, in the years to come will be the subject of much debate. It is a theme which is strongly linked to today's theme of 'Rural reconstruction in a market economy'. The land use dilemma also requires the agricultural sector to adjust to different constraints. Many of the changes happening in society affect land use. Thus changed lifestyles, immigration and smaller households cause an increase in the demand for land for housing. Don't we all prefer to have a house with a garden in the immediate vicinity of all sorts of facilities?

With leisure time, recreational needs have increased, both in terms of quantity and quality. As a result, the demand for land increases and so does the demand for a greater diversity of the available space. Meanwhile, the Dutch business community, including the agro-industry claims space for development and infrastructure. Finally, various policy documents that have come out over the past few years have proposed to increasing the area devoted to nature. Farmers' demand for land is also high, and will remain so given the environmental policies to be pursued. Livestock farmers need more land when stocking rates per hectare must go down. Bulb growers will also buy more land when a ban on soil disinfectants is introduced. And then there is, of course, the demand for more land for the development of nature.

The developments I have talked about show how the developments in agriculture, regional economics and urban areas hang together. There is a call for a new approach to the relation between urban and rural development. The developments within Europe should be followed closely. In France, for instance, the socio-economic aspect of rural development is important. In the Netherlands the emphasis is on land use. The number of farmers in the rural areas in the Netherlands has dropped over the past decades, and economy in the rural areas no longer depends on agriculture. Non-agricultural industries and amenity value have taken its place. Therefore development in the rural areas is no longer determined by changes in agricultural policies. To do something for the development of rural areas means developing new insights.

Problems and opportunities differ per region. More responsibilities therefore go from central government to regional and provincial authorities. Central government should point out the constraints, while at the same time giving more room to local authorities and private initiatives. The Mansholt Institute might contribute by making an analysis of the different sectors and their interdependence from a social and environmental point of view. It is clear that there are many challenges for this new institute.

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