

# Plurality and Rurality

## The role of the countryside in urbanised regions

Hans Hillebrand  
Roland Goetgeluk  
Hans Hetsen  
(eds.)



Volume 2

Maart 2000

Report 4.00.04

Agricultural Economics Research Institute (LEI), The Hague

The Agricultural Economics Research Institute (LEI) is active in a wide array of research which can be classified into various domains. This report reflects research within the following domain:

- Business development and external factors
- Emission and environmental issues
- Competitive position and Dutch agribusiness; Trade and industry
- Economy of rural areas
- National and international policy issues
- Farm Accountancy Data Network; Statistical documentation; Periodical reports

Plurality and Rurality; The role of the countryside in urbanised regions  
Hillebrand, H., R. Goetgeluk and H. Hetsen (eds.)  
The Hague, Agricultural Economics Research Institute (LEI), 1999  
Report 4.00.04; ISBN 90-5242-; Price NLG 85.- (including 6% VAT)  
282 pp., fig., tab., app.

From November 11 till November 14, 1998, an EAAE seminar (the 60<sup>th</sup>) was held in Berg en Dal in the Netherlands. The theme of the seminar was the role of the countryside in urbanised regions. This book contains most of the papers presented there. The main conclusion is that the problem of rural regions under urban pressure is not restricted to a few highly urbanised countries, but is at stake in all the countries of which representatives attended the seminar (Belgium, Britain, France, Italy and the Netherlands). In all these countries regions can be identified in which the building of new houses and infrastructure damages the identity of rural areas near the city, and thus destroys many possibilities for recreation. It is a slow process that cannot be stopped by a top-down policy. New, more bottom-up approaches are required. This implies a revised research agenda.

Orders:

Phone: 31.70.3358330

Fax: 31.70.3615624

E-mail: [publicatie@lei.wag-ur.nl](mailto:publicatie@lei.wag-ur.nl)

Information:

Phone: 31.70.3358330

Fax: 31.70.3615624

E-mail: [informatie@lei.wag-ur.nl](mailto:informatie@lei.wag-ur.nl)

Reproduction of contents, either whole or in part:

- permitted with due reference to the source
- not permitted



The General Conditions of the Agricultural Research Department apply to all our research commissions. These were registered in the Central Gelderland Chamber of Commerce in Arnhem.



# Contents

|  | Page |
|--|------|
| 12. Estimation of the Belgian farmers' willingness to accept for countryside stewardship measures<br><i>Isabel Vanslebrouck and G. van Huylbroeck</i>  | 7    |
| 13. Analysing Farm Diversification Activities with the Transaction Cost Theory<br><i>Ingrid Verhaegen and Guido van Huylbroeck</i>   | 27   |
| <b>Case studies</b>  | 40   |
| 14. Case studies: Overview<br><i>Hans Hillebrand</i>   | 41   |
| 15. Public - private innovation: market and chain approach implemented in the Tourism and Recreation sector in the Dutch province Brabant<br><i>Marien Borgstein and Hans Hillebrand</i>                                       | 42   |
| 16. Living in rural areas: Revealed preferences for rural amenities<br><i>Berien S. Elbersen and Frank van Dam</i>   | 59   |
| 17. Rural land use changes and the image of the countryside: a Dutch rural idyll?<br><i>T. Haartsen, P.D. Grootte and P.P.P. Huigen</i>  | 75   |
| 18. The changing role of the countryside in urbanised regions; Agriculture in the Ile-de-France green belt: preliminary analysis of cost overruns<br><i>André Fleury, Olivier Camacho, Camille Chavaudret and Hélène Redon</i> | 93   |
| <b>Keynote papers</b>  | 107  |
| 19. Keynote papers: overview<br><i>Hans Hetsen</i>   | 108  |
| 20. Knowledge and Innovation Priorities: Aspirations for the 21st Century<br><i>Hans Hetsen</i>  | 110  |
| 21. Rural Development and the Rural Economist<br><i>Andrew Errington</i>   | 115  |

|            |                               | Page |
|------------|-------------------------------|------|
| Appendix 1 | The Case for Rural Employment | 129  |
| Appendix 2 | Participant list              | 134  |

## 12. Estimation of the Belgian farmers' willingness to accept for countryside stewardship measures

*Isabel Vanslebrouck and G. van Huylenbroeck*

### *Abstract*

The role of agriculture in providing environmental quality, or the farmer's role as guardians of the countryside is now generally acknowledged. This paper explores farmers' willingness to accept for changes in their agricultural practises in order to preserve the agricultural landscape. The contingent valuation approach is applied, because it is a very interesting method, capable of valuing both use and non-use values. Three hypothetical countryside stewardship policies are presented to the farmers, who are asked to state their WTA for every single measure. Although it seems difficult to answer the open-ended questions, some conclusions for agricultural policy can be drawn concerning direct compensation to farmers for the provision of non-market goods.

### **12.1 Introduction**

The major objective of agriculture is the production of food commodities. But by there activities, farmers also produce or maintain, intentionally or not, a specific landscape, with its scenic and biological variety and historical value. In particular in urban areas, the protection of the remaining landscape elements by farmers gets more and more attention. The quality of this by-product depends on what commodities are produced on the land and which practices are applied.

As in most European countries, the agricultural sector in Belgium has changed drastically over time. Since the beginning of the common agricultural policy, Belgian agriculture has been through enormous changes, mainly in terms of farm structure and production methods. First of all, the average farm size has increased due to the disappearance of a large number of farms (from 184,023 farms in 1970 to 69,756 in 1996). The average farm size has increased from 13 to 20 ha between 1970 and 1996. This trend was accompanied by a massive exodus of labour (-57% between 1970 and 1996). Farmers tried to counteract this evolution by technological improvements requiring heavy investments, an increased use of external inputs and therefore an increase of the burden of debts. This race for competitiveness is responsible for following trends: intensification, specialisation and concentration of production. The modernisation of agriculture has brought about significant changes in the landscape of Belgium. Larger machinery requires larger fields, demanding the removal of hedgerows, and resulting in a loss of biodiversity. Landscape has become less attractive to recreation and tourism and a number of habitats are endangered, inter allies due to the high fertiliser rates and use of large amount of manure coming from the intensive livestock production.

While agriculture is going through these changes, the demand for nature and landscape and the possibilities for outdoor recreation increased, because of higher incomes,

an increase in leisure time and mobility, and a change in people's preferences. Also the increased urbanisation has led to a higher need for recreation possibilities in rural areas. This means that in a period in which the agricultural landscape has lost a lot of its attractive aspects, the demand for it increased. From the theory of supply and demand, it is explainable that at the moment when demand increases or supply decreases for agricultural landscape, its value increases (Heijman et al., 1991).

This conflict between the use of the scarce area for food and fiber production or nature and landscape conservation is most urgent in the urbanised regions of Western Europe. Many people deplore the dramatic decline of nature and landscape and ask for policy initiatives towards the conservation and restoration of traditional landscapes.

The solution of this conflict forms the major challenge for a future agricultural policy, of which the primary objective must be the development of a productive but sustainable agricultural sector. Increased attention is paid not only to market-oriented agricultural production and manufacturing, but also to the ecological compatibility of production processes (Pruckner, 1995). In accordance with these goals, the political question arises as to whether or not the agricultural sector should be compensated for the provision of non-market goods, such as the preservation of a typical agricultural landscape for the enjoyment of residents and tourists. In Flanders e.g. the administration is actually working out a structural master plan. The reservation of area for agriculture in the neighbourhood of cities is a major point of discussion and can only be defended on the basis of the role of rural areas as green 'lungs' around the cities. On the other hand the restrictions on agricultural production in the suburban areas make the survival of agriculture doubtful.

In general, the potential for a rural area to provide countryside benefits depends on ecological and geographical factors, such as the presence of species and habitats, the area's capacity to (re)generate new habitats, the climatic and geomorphological conditions. However, many landscape benefits arise only as joint products of certain forms of agricultural production and practises. The agricultural technology adopted plays a major role in the (non-)provision of landscape amenities.

From an economic point of view rural landscapes have two particular features (Tempesta, 1998). First of all, rural landscapes are a pure public good, since the principles of rivalry and excludability from consumption do not apply. Secondly, rural landscapes are a farming externality (both positive and negative), meaning that the market cannot provide the, from a social point of view, desired and optimal lay-out of the landscape. Only public intervention can modify the farmers' decisions on how to exploit land use in order to produce an optimal landscape quality.

Public intervention involving direct subsidies - based on acreage or on specific environmental activities - instead of price support, should contribute to reduce excess production, stabilise agricultural income levels and diminish intrasectoral income levels. Furthermore, this policy is expected to contribute towards realising ecological goals and improving the development of rural regions although the results, in fact, depend on the policy's specific elements (Pruckner, 1995).

Before asking whether, and to what extent, farmers should be compensated, it is necessary to measure the economic benefits and costs associated with agricultural non-market services. There are, however, difficulties related to their valuation.



Although the growing interest by agrarian economists in the analysis of negative externalities, in the last decade there have been only few scientific contributions on the evaluation of positive externalities and in particular on the value of the agricultural landscape. In this paper, the contingent valuation method (CVM) is applied to measure farmers' willingness to accept (WTA) for certain changes in their farming activities in order to give more attention to landscape preservation. These changes or adaptations are presented as hypothetical countryside stewardship measures. This study differs from other studies, because it analyses the problem starting from the farmers' point of view. Another feature of the survey is that the selected farmers have an accounting system of the Agricultural Economic Institute, what makes it possible not only to calculate their WTA, but also to link their answers to structural and farm economic data, such as income level, age, level of education, farm size.

The paper is organised as follows: section 2 contains a short introduction in the countryside stewardship measures, which are analysed in this study. Section 3 presents methodological aspects of the CVM, while some descriptive results are analysed in section 4. Section 5 contains a short summary and conclusions for agricultural policy.

## **12.2 Countryside stewardship measures**

Stewardship policies, trying to encourage the production of public environmental goods, as joint products of agricultural and forestry land use, are an important element in the policies of European Union (EU) member states the last years. Programmes for stimulating the provision of environmental goods and services have been launched once the role of farming and forestry as stewards of the environment has been acknowledged and follows to a certain extent the orientations of the Common Agricultural Policy (CAP) reform, in particular the accompanying measures (2,078 measures).

In this study three different countryside stewardship measures are analysed. The measures are based on existing countryside stewardship policies in Belgium. An overview of these policies is given by Coppens et al. (1997).

### *Plantation in yard (farm beautification)*

This project tries to integrate the agricultural buildings better into the landscape. The services of the local authority develop a plantation plan adapted to the farm situation. This plan, for free, describes where, how many and which species of trees, hedges, ... can be planted. The farmer purchases and plants them himself and sends a copy of the bill to the responsible authorities who pay back 75% of the costs, with a maximum of 10,000 BEF.

The main objective of this policy is the conservation of typical agricultural and rural landscapes and related elements. The conservation of the natural and semi-natural environment and a reduction of negative impact of agriculture on landscapes and environment can be considered as a secondary objective.

### *(re)Plantation and maintenance of pillard-willows, ponds and small landscape elements*

This measure provides incentives and compensations for the maintenance and repair of pillard-willows, ponds and small landscape elements, like hedges, tree rows, wooded banks, pollards.

The main objective is to conserve the natural and semi-natural environment. Other objectives are the conservation of wildlife and biodiversity, soil conservation and protection from erosion, and conservation of agricultural crops, rural landscapes and related typical elements.

### *Use of unsprayed field margins (Agri-environmental measures-Regulation (EEC) 2078/92)*

This measure consists of different possibilities: replacement of a strip of crop land by a grass field margin, or extensive cultivation of a margin around a crop field, or replacement of a strip of intensive grassland or low stem orchard by an extensive grass field margin. The main objective is the reduction of the negative impact from agriculture on the landscape and the environment. The other objectives are natural and semi-natural environment conservation, wildlife and biodiversity conservation, soil conservation and protection from erosion, and recreation and access to agricultural land.

Several options are available for this particular measure and their goal is to convert a 4 meters wide strip of land around a field, a grassland or an orchard into an extensively cultivated grassland or field (no manure, strong limitation on phytopharmaceutical products).

## **12.3 The contingent valuation method**

### 12.3.1 Choice of method

In literature, several methods have been proposed to measure the economic value of public goods. Two methods for estimating environmental and recreational values, the travel cost method and the hedonic price method, have the advantage of being based on actual behaviour. The travel cost method, however, cannot be used to estimate the value of preserving the agricultural landscape. The objects to be valued are too scattered, and a considerable part of the value lies in the existence of the daily surrounding, not requiring any extra travel costs to be consumed. Another approach is called the hedonic price method. This method would fail to estimate the full value of preserved agricultural landscapes because estate prices only indicate values that are enjoyed exclusively by the landowner. Both methods estimate in theory only the use values but not the option or existence values, which could be of significant size for agricultural landscapes (Drake, 1992).

The contingent valuation method (CVM) seems to be the only appropriate method to evaluate agricultural landscapes (Drake, 1992). Use values as well as option and existence values are included in the estimates obtained by this method. However, a serious problem with CVM is the difficulty with value formulation and value statement and the possibility

of a number of biases or unsystematic distortions, linked to the survey technique. In several studies, this method has been compared with one of the other methods for the same object. In most cases comparable results are obtained, indicating that the CVM can provide reliable results, given that it is rigorously applied.

### 12.3.2 Contingent valuation

The CVM is a survey technique, used to estimate either the willingness to pay (WTP) for an improvement in the quality or quantity of some environmental good, or the willingness to accept (WTA) for a deterioration in environmental provision. The valuation is defined as contingent because the information sought from the survey respondents is conditional upon some particular hypothetical market context. This context will specify the nature of the change, how it is to be implemented, what it will cost, how payments would be made, and so on. The objective of the survey is to elicit (hypothetical) monetary bids from a representative sample of the 'population of interest'. These bids are then used as the data from which the shadow price of some environmental gain or loss can be derived (Perman et al., 1996). This technique has found extensive application in recent years. It has been employed to value water quality improvements, the benefits of reduced air pollution, the option or existence values of wilderness areas or ecologically important species, the value of recreation sites, the benefits of water, sewerage and tourism projects and so on. However, only a few studies have applied the method to estimate the value of rural landscapes (Drake, 1992; Bonnieux and Rainelli, 1995; Garrod and Willis, 1995; Pruckner, 1995; Colson and Stenger-Letheux, 1996, Dubgaard, 1998; Hasund, 1998), and all of them, except the one from Bonnieux and Rainelli (1995), analysed the problem starting from the consumers' point of view.

This means that a survey was conducted to find out the WTP from the consumers for a specific agricultural landscape. Only in Bonnieux and Rainelli (1995) a value for the agricultural landscape was estimated using the WTA-concept. Farmers were asked what they are willing to accept for a change in their farming practises. This will also be the starting point from this analysis, which makes it possible to have an idea about the supply curve of agricultural landscape elements. This is the main difference with the other studies, who are estimating the demand for a specific rural landscape.

### 12.3.3 Theoretical background

Valuing the environment is not possible through the market mechanism of supply and demand, because the environment is a public good. It is however possible to have a better insight in the problem of valuing the agricultural landscape, starting from the theory of supply and demand. The ideas are shown in figure 12.1.

In the bottom right corner of figure 12.1, the production possibility curve depicts production jointness between traditional agricultural commodities,  $Q_{FF}$  (such as food and fiber), and countryside stewardship,  $Q_L$ , and their relative trade-offs. At least five segments can be plotted, corresponding to the mutable economic nature of countryside stewardship. The different segments are discussed in detail in Merlo and Gatto (1996). The most important segment in the framework of this analysis is segment  $A_2B_2$ , because there

countryside stewardship takes place at the expense of agricultural commodities and vice versa. The upper half of the figure illustrates the supply and demand for food and fiber (upper right corner), and the supply and demand for a certain landscape, related to the price of food and fiber (upper left corner). The production possibility curve is the link between both the supply of food and fiber on the one hand, and landscape on the other hand. A high supply of food and fiber corresponds with a low supply of specific landscape elements and vice versa.

Starting from the consumers' perspective, there is a certain demand for rural landscapes or environmental goods and services in general, especially for recreational purposes. Because people's preferences tend to shift towards more recreational activities in the countryside (away from the urbanised regions), there will be a shift in demand (along the demand curve) towards a higher amount of landscape amenities. To meet consumer's demand, the supply of landscape elements should increase, at the expense of agricultural commodities, because they are joint products. Therefore the supply curve  $S_{FF}$  will shift to the left ( $S'_{FF}$ ), resulting in a new equilibrium for food and fiber (b'). As a result, the supply curve of rural landscape ( $S_L$ ) will shift as well ( $S'_L$ ). The new equilibrium is point b.

Consumer's WTP for those countryside elements can be measured by the change in consumer surplus, while farmer's WTA for the changes in their farming practises can be referred to as the change in producer surplus. Both approaches need to be compared to have a clear overall picture. From figure 12.1 it is obvious that WTP doesn't necessarily have to be the same as the WTA for the same goods.

In this study the supply side of the problem is analysed. Figure 12.2 highlights the need for amenity valuation (Bonnieux and Rainelli, 1995). It displays the current situation in a specific area, in which agriculture provides both positive and negative externalities: for low levels of intensification (Q) positive externalities dominate but for high levels of intensification negative externalities dominate.

The level of intensification is given on the x-axis and is measured by a simple indicator Q which is the output per hectare. The price of the output is given on the y-axis. Agricultural supply is given by the marginal private cost curve  $C_{mp}$ . The second curve  $C_{ms}$  depicts marginal social cost i.e. marginal private cost plus the marginal externalities of the agricultural sector. Point  $A_0$  is the intersection of the two curves: on the left  $C_{ms}$  is under  $C_{mp}$  and on the right it is above. So if Q is smaller than  $Q_0$  agriculture generates positive externalities which are equal to the area between  $C_{mp}$  and  $C_{ms}$ . For higher output values, positive externalities disappear and negative impacts progressively dominate the positive externalities.

The direct payments are currently based on profit foregone i.e. the area  $A_0A_1M$  plus some premium to convince farmers to enrol in the scheme. There is no link with the provision of benefits, i.e. the area  $A_0A_1B_1$ . One major difficulty in implementing these policy schemes is that of valuing the benefits produced.

An alternative for looking at the environmental effects of farming is to treat the environmental output itself as a direct product from farm resources. The emphasis is then placed on the bundle of goods produced by farmers. This bundle includes both private and public goods. As farmers receive a price for producing commodities, there is a rationale for direct payments. Payment schemes are not implemented in order to compensate farmers

but in order to pay for the provision of public benefits. It is obvious that the implementation of such schemes would require an evaluation of these public benefits.

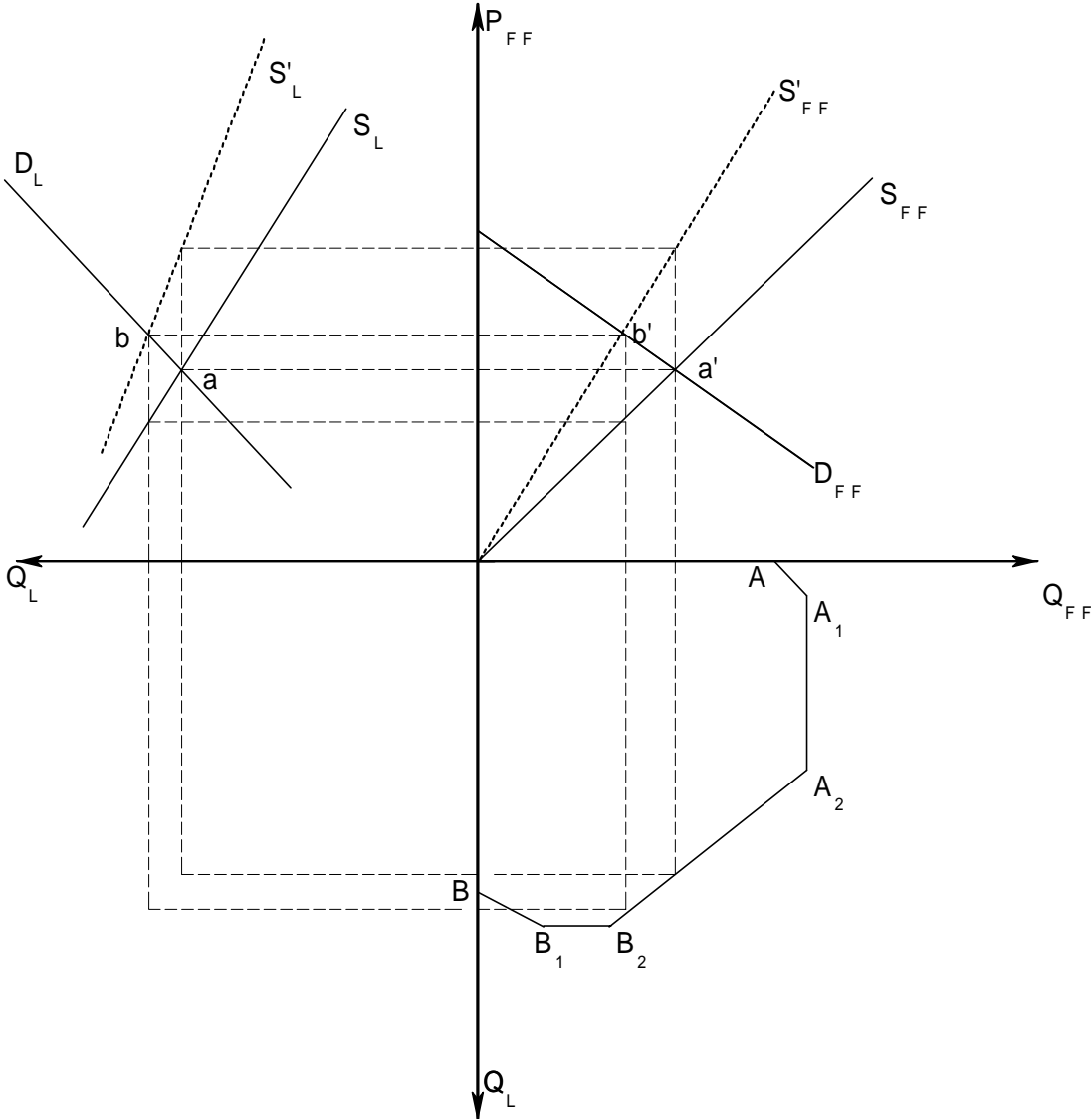


Figure 12.1 WTP and WTA for rural landscape

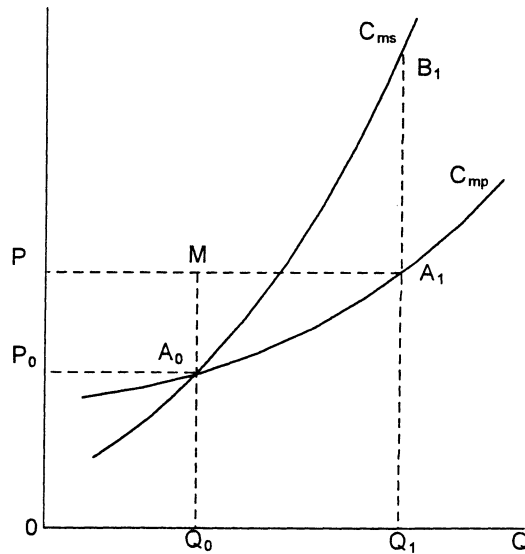


Figure 12.2 Agricultural intensification and externalities

In this view, farmers are considered as providing a countryside management function that justifies support. Regulation 2,078/92 on agricultural production methods compatible with the requirements of environmental protection and maintenance of the countryside, extends direct payment schemes to larger areas than environmentally sensitive areas. Moreover there is a clear reference both to profit foregone and to the value of public benefits: '... the measures must compensate farmers for any income losses caused by reductions in output and/or increases in costs and for the part they play in improving the environment.'

The environmental role of agriculture has taken an ever more prominent place in the development of the Common Agricultural Policy. The encouragement of environmentally friendly farming has two main objectives (i) to remove the negative externalities of agriculture, (ii) to promote the positive protection and enhancement of the environment and countryside. Alongside the study of mechanisms of delivery for agri-environmental policy, there is a need to extend information on the value that can be provided. By valuing environmental benefits it is possible to provide a firm economic basis on which the amount and direction of EC and national expenditure can be more soundly based. The value of preserving environmental assets, and therefore the non-market output produced by farmers, calls for CV since it is the only available technique which can capture existence value of environmental goods such as landscape and biodiversity. Nevertheless CV measures require further testing before they can be accepted as representative enough of people's preferences. This must be done to overcome the information gap on the demand side. On the supply side, there is a lack of study. It would be useful to get a better knowledge of farmers' behaviour. In this paper some preliminary results of a study which focuses on the supply side, are presented. The CV approach is used to ask farmers how much they

hypothetically need to receive in order to accept changes in their farming practices resulting in the provision of environmental goods.

#### 12.3.4 WTP or WTA?

An important question in a CV survey is if the elicitation function is phrased in terms of WTP or WTA. Theoretically this depends on which Hicksian consumer surplus measure the researcher wants to obtain.

The question of which measure of welfare change to use, WTP or WTA, has been discussed extensively in literature. It has been shown by Hanemann (1994) that there is no theoretical reason to believe that the measures will be close in value. The National Oceanic and Atmospheric Administration (NOAA) Panel who has drawn up a list of guidelines for CVM surveys recommends to use always the WTP format (Arrow et al., 1993). It is however dangerous, as pointed out by Harrison (cited in Holstein, 1998), to measure one thing (WTP) if the correct thing to measure is something else (WTA). Thus, there are no theoretical arguments for using the WTP format in situations when the property rights are distributed in such a way, that the respondent has a right to the amenity in question, making WTA the correct format. This is also discussed in Mitchell and Carson (1989).

The choice between the WTP and WTA formulation is a question of property rights. In the case of farmers with full property rights on the land they own or rent, and for voluntary measures, the WTA approach seems more correct to estimate at what price farmers will provide certain environmental outcomes, then to measure their WTP for not having to bear certain constraints on their practices.

#### 12.3.5 Problems in CVM estimates

CVM has been criticised a lot in economic literature. For an overview of possible biases we refer to Mitchell and Carson (1989) as well as Hausman (1993), who give a critical review on the CVM.

The next section only intends to focus on some points from the literature relevant for the case study presented below: the hypothetical nature of the surveys, strategic behaviour, the comparison between closed-ended and open-ended question formats and information bias.

Perhaps the most important objections to CVM concentrate on the hypothetical survey setting, since most of the time the questionnaires do not deal with actual behaviour. Hypothetical bias may arise because respondents are asked to state WTP/WTA for changes which are hypothetical rather than real. Several authors suggest that the best CV studies are those that are as close as possible to real cases (Perman et al., 1996).

A second objection focuses on strategic behaviour. Strategic bias arises from the interest of a respondent to influence the outcome of the study. People may attempt to influence the provision of a public good and/or the payment connected with this good because they have interest in it (Pruckner, 1995). Mitchell and Carson (1989), however, argue that strategic bias is not a significant problem for most CV studies.

Another methodological issue, which is of interest for interpreting the empirical results in this paper, is the appropriateness of either open-ended or closed-ended

(dichotomous choice) question formats. Both question formats are used in this study. Most researchers are in favour of the closed-ended question format (Mitchell and Carson, 1989). The most important arguments against open-ended questions are the lack of realism and the invitation of respondents to overstate their true WTP/WTA. This objection arises from the problem that respondents are expected not to be familiar with the good in question, and therefore not able to place an appropriate money value on the environmental good. This is however not the case in this study, because the farmers are sufficiently familiar with the goods in question.

Further criticism on the validity of CV results lies in the miscommunication problem. Information bias can arise from the structure of information presented to the respondent, and upon which bids are conditioned. Survey researchers tend to impose their own conceptual framework on problems and situations that are understood by respondents quite differently (OECD, 1994). However, personal interviews and pre-tests of the questionnaire can reduce these biases to a large extent.

#### 12.3.6 Reliability of results

The empirical literature does not support a definite answer about the existence of potential biases (Perman et al., 1996). The reason for this is that the potential for various biases depends on the specific CV scenario being evaluated.

Although still controversial, the verdict of the NOAA panel is that contingent valuation does provide useful, relevant and reliable information for the evaluation of environmental goods and services, when applied carefully. The panel has drawn up a list of guidelines for CVM surveys that should be closely followed in empirical work. The most important recommendations include an appropriate sample type and size, careful specification of the scenario to be valued, extensive use of focus groups and other pre-survey studies to increase the likelihood that questions are framed in a way respondents can interpret, a preference for personal interviews, and the application of the single referendum format of CVM (Arrow et al., 1993).

The CV technique has become a widely used tool in economic analysis, and a powerful tool of valuation. Its main merits lie in its wide applicability, its versatility, and in the fact that it is till now the only available method for obtaining estimates of both non-use and use values.

### **12.4 The contingent valuation application**

The results presented in the next section are part of a survey, which was conducted in the framework of a research project on market effects of countryside stewardship policies (FAIR1/CT95/0709). The WTA questions were only part of a broader survey on the attitude and knowledge of farmers towards countryside stewardship policies. Because of the broader scope of the survey, there was enough and clear information on the 'environmental goods' to be valued.

The surveyed farmers have been selected from the farms in the accounting system of the Agricultural Economic Institute (LEI), what makes it possible to link their answers to



structural and farm economic data. A negative feature is, however, that it is not possible to aggregate the results because farmers were not sampled randomly. Only farmers with an accounting system of the LEI could be selected.

In total 390 Belgian farmers were interviewed, but only 347 of them completed the valuation questions correctly, of which 180 in Wallonia and 167 in Flanders. The questionnaire consisted of three major parts, related with the different policy measures, described in section 2. The results will be discussed separately in the following sections.

12.4.1 WTA for plantation in yard (farm beautification)

The question on farm beautification was presented as a dichotomous choice question (see box 1): a proposal is made to the farmer and then he is asked if he would take part under the presented conditions in the plantation action. If the farmer answers no, he has the possibility to express why he is not interested. The results are shown in table 12.1. The reasons for not taking part can be divided into 4 groups and are presented in table 12.2.

Box 1

|   |   |
|---|---|
| Imagine you can take part in a farm beautification program: |   |
| -   | a plantation plan, adapted to your farm situation, is proposed;                       |
| -   | you take care of the plantation;  |
| -   | the costs of the planting material will be paid back for 75% (maximum of 10,000 BEF); |
| -   | the action is unique, you can only take part once.                                    |
| Would you, under these conditions, take part in the action? | yes/no  |
| If no, why not?   |   |

A first observation is the high response rate to the first question. This indicates that a yes/no question is quite easy to answer. Looking at the reasons for not taking part in a plantation project, it is clear that financial (compensation too low) and practical (not applicable to the farm situation, or plantation has been done already) reasons are most important.

Table 12.1 Answers to question on farm beautification

| Answer       | Number     | Percentage | Valid percentage |
|--------------|------------|------------|------------------|
| Yes          | 177        | 51         | 52.1             |
| No           | 163        | 47         | 47.9             |
| Missing      | 7          | 2          | -                |
| <b>Total</b> | <b>347</b> | <b>100</b> | <b>100</b>       |

#### 12.4.2 WTA for plantation and maintenance of small landscape elements

For these questions the open-ended question format was used. The farmers were asked to state their WTA for plantation and maintenance of pillard-willows, and for the construction and maintenance of ponds. There was also a possibility of stating that the measure is not applicable on the farm, or that it is applicable, but that the farmer is not interested at all (see box 2). The first possibility can be the case when asking for the construction of a pond on an arable farm. The second possibility is to avoid protest bids on the open-ended WTA question.

Table 12.2 Reason for not taking part in the farm beautification project

| Reason            | Number | Percentage | Valid percentage |
|-------------------|--------|------------|------------------|
| Personal reasons  | 36     | 22.1       | 24.1             |
| Practical reasons | 52     | 31.9       | 34.9             |
| Financial reasons | 53     | 32.5       | 35.6             |
| Other reasons     | 8      | 4.9        | 5.4              |
| Missing           | 14     | 8.6        | -                |
| Total             | 163    | 100        | 100              |

#### Box 2

|  |  |                             |                           |
|--|--|-----------------------------|---------------------------|
| Imagine you can take part in a countryside stewardship scheme on plantation and maintenance of small landscape elements (e.g. hedges). The commitment lasts for 5 years. |  |                             |                           |
| What is the minimum amount you want to receive before you would consider to adapt them in your farm practices?   |  |                             |                           |
|  | applicable with following minimum amount | applicable, but no interest | not applicable on my farm |
| pillard-willow:  |  |                             |                           |
| - plantation   |  |                             |                           |
| - maintenance (less than 10 years)   | BEF/tree                                 | <input type="checkbox"/>    | <input type="checkbox"/>  |
| - maintenance (more than 10 years).....  | BEF/tree/year                            | <input type="checkbox"/>    | <input type="checkbox"/>  |
| pond (between 25 and 50 m <sup>2</sup> )   |  |                             |                           |
| - construction   | BEF/pond                                 | <input type="checkbox"/>    | <input type="checkbox"/>  |
| - maintenance  | BEF/pond/year                            | <input type="checkbox"/>    | <input type="checkbox"/>  |
| pond (more than 50 m <sup>2</sup> )  |  |                             |                           |
| - construction   | BEF/pond                                 | <input type="checkbox"/>    | <input type="checkbox"/>  |
| - maintenance  | BEF/pond/year                            | <input type="checkbox"/>    | <input type="checkbox"/>  |

Looking at the results presented in table 12.3, it is clear that only a low percentage of the farmers stated their WTA. Most of the respondents indicate not applicable or not interested. That this percentage is higher then for plantations around the farmstead is

logical. Farm beautification interests more farmers than plantation of hedges or trees in the fields and certainly more than the realisation of small or large ponds. Ponds are not possible everywhere, less common than trees and result in higher losses. The number of missing values is a little high, but this has probably to do with the fact that some farmers are not familiar yet with this kind of questions.

Table 12.3 Number of answers on the questions on landscape elements

|  | Applicable -<br>WTA | Applicable,<br>but no interest | Not applicable<br>on my farm | Missing |
|--|---------------------|--------------------------------|------------------------------|---------|
| Pillard-willow a):                       |                     |                                |                              |         |
| - plantation                             | 29.7                | 26.5                           | 28.8                         | 15.0    |
| - maintenance (less than 10 years)       | 22.2                | 14.4                           | 32.9                         | 30.5    |
| - maintenance (more than 10 years)       | 22.2                | 14.4                           | 32.9                         | 30.5    |
| Pond (between 25 and 50 m <sup>2</sup> ) |                     |                                |                              |         |
| - construction                           | 10.1                | 23.1                           | 50.1                         | 16.7    |
| - maintenance                            | 11.2                | 22.8                           | 44.1                         | 21.9    |
| Pond (more than 50 m <sup>2</sup> )      |                     |                                |                              |         |
| - construction                           | 6.6                 | 21.9                           | 55.1                         | 16.4    |
| - maintenance                            | 6.9                 | 21.6                           | 49.6                         | 21.9    |

a) There is a small difference between the Flemish and the French questionnaire concerning these questions. In the French survey farmers are only asked for the plantation of trees (in general), and there is no question on their maintenance.

Because of the low response on the WTA-question it is not possible to give an absolute value for these Landscape elements. The results in table 12.4 give only an indication and must be interpreted as such. Looking at the standard deviation in table 12.4, it seems that there are some outliers in the answers. Because of the small number of answers they were not thrown out of the calculations. The median and mode seem to give a better idea of the value.

Table 12.4 WTA for the plantation and maintenance of landscape elements (BEF)

|  | Mean WTA a) |          | Median | Mode   | Unit          |
|--|-------------|----------|--------|--------|---------------|
| Pillard-willow:                          |             |          |        |        |               |
| - plantation                             | 3,007       | (11,077) | 800    | 500    | BEF/tree      |
| - maintenance (less than 10 years)       | 502         | (437)    | 500    | 500    | BEF/tree/year |
| - maintenance (more than 10 years)       | 699         | (547)    | 500    | 500    | BEF/tree/year |
| Pond (between 25 and 50 m <sup>2</sup> ) |             |          |        |        |               |
| - construction                           | 27,415      | (43,199) | 15,000 | 10,000 | BEF/pond      |
| - maintenance                            | 5,692       | (8,328)  | 3,750  | 5,000  | BEF/pond/year |
| Pond (more than 50 m <sup>2</sup> )      |             |          |        |        |               |
| - construction                           | 43,261      | (41,910) | 25,000 | 10,000 | BEF/pond      |
| - maintenance                            | 8,640       | (10,404) | 5,000  | 5,000  | BEF/pond/year |

a) Standard deviation between brackets.

It is interesting to compare these preliminary results with the compensations as proposed in already operational policy measures such as the project on the (re)plantation and maintenance of pillard-willows and ponds in the Province of East-Flanders (table 12.5).

*Table 12.5 Compensations for plantation and maintenance of pillard-willows and ponds*

|  | Compensation        |
|--|---------------------|
| Pillard-willow:                          |                     |
| - plantation                             | 250 BEF/tree        |
| - maintenance (less than 10 years)       | 40 BEF/tree/year    |
| - maintenance (more than 10 years)       | 100 BEF/tree/year   |
| Pond (between 25 and 50 m <sup>2</sup> ) |                     |
| - construction                           | 2,500 BEF/pond      |
| - maintenance                            | 500 BEF/pond/year   |
| Pond (more than 50 m <sup>2</sup> )      |                     |
| - construction                           | 5,000 BEF/pond      |
| - maintenance                            | 1,000 BEF/pond/year |

Comparing table 12.4 and table 12.5 shows large differences. It is clear that farmers' WTA in the survey is much higher than the actual proposal from the authority responsible for the project. The farmers' WTA must be interpreted as the price for the delivery of these environmental goods and services. The high values are also not surprising in the light of the low response rate that the measure has in reality. Comparing the mean or mode, we see that the WTA is 2 to 5 times higher than the offered amounts.

#### 12.4.3 WTA for the use of unsprayed field margins

The third part of the survey dealt with the extensification of field margins. The questions are given in box 3.

An overview of the results is given in table 12.6. It is clear once again that only a small part of the farmers is interested in providing the environmental service. More than 80% of the respondents answered they are not interested in this kind of measure. A lot of them did not see the link with saving the environment or stated that unsprayed field margins are careless and a proof of bad agricultural practise. Some others mentioned that the compensation is too low, although the compensation was part of the question, so they could state whatever amount they found most appropriate.

Because of the small number of answers to the WTA-question, the mean WTA has no statistical value and can only be interpreted as a rough indication. Comparing the obtained values with the existing compensations in the framework of the Agri-environmental measures (Regulation 2078/92) in Wallonia, which range from 5,000 to 10,000 BEF/ha/year, depending on the field margin, it is clear that the WTA from the

interviewed farmers is more than twice as high, indicating that also those who indicate to be interested, find the actual premiums too low.

The results give a clear indication that the introduction of such a policy measure will need a lot of information towards the farmers to convince them of the positive aspects of the programme. Most of those projects are on a voluntary basis and from this first analysis it seems farmers are not very much in favour of accepting the proposed changes in their farming activities.

Box 3

|  |                          |
|--|--------------------------|
| Suppose following countryside stewardship measure (for 5 years), on the extensification of field margins is proposed to you: |                          |
| field margins in crop land   |                          |
| - width of the margin: $\pm$ 4 meter   |                          |
| - no fertilisers   |                          |
| - no pesticides (except for problematical weeds)   |                          |
| - the crop can be replaced by grass or corn  |                          |
| Are you interested in this kind of commitment?   | yes/no                   |
| if yes, - what is the minimum amount you want to receive before taking part?   | .....BEF/ha margin/year  |
| - on what percentage of your crop land would you consider this measure?  | ..... % of the crop land |
| if no, why not?  |                          |
| field margins in grass land (idem)   |                          |
| importance of the width of the margin  |                          |
| Does the width of the margin play a role in your decision to take part? yes/no   |                          |
| if yes, what is the ideal width?   | ..... m in crop land     |
|  | ..... m in grass land    |

12.4.4 Discussion

Further analysis is necessary to have a better idea on the WTA of farmers towards the proposed environmental goods and services. This survey only gives a general overview on farmers' WTA for the delivery of some specific environmental services. The link between the WTA-answers and some structural and farm economic data must give a better insight into the answers of the farmers and the form of the supply curve. This part of the analysis has not been realised yet, but is indispensable in this kind of study. A logit or tobit model will be used to further analyse the data. However, the results indicate that the willingness to participate of farmers is rather low: or they do not accept the policy or they demand a high price for it. Links with structural data have to clarify the reasons behind this attitude.

Table 12.6 Answers to the questions on unsprayed field margins

|                                 | Crop land       | Grassland       |
|---------------------------------|-----------------|-----------------|
| Interested (%)                  |                 |                 |
| - yes                           | 11.5            | 11.2            |
| - no                            | 83.6            | 82.7            |
| - missing                       | 4.9             | 6.1             |
| WTA (BEF/ha margin/year)        |                 |                 |
| - mean (standard deviation)     | 28,895 (11,517) | 19,071 (13,216) |
| - median                        | 27,500          | 20,000          |
| - mode                          | 20,000          | 20,000          |
| % of the area                   |                 |                 |
| - mean (standard deviation)     | 37 (33)         | 50 (40)         |
| - median                        | 22.5            | 50              |
| - mode                          | 50              | 100             |
| Reasons for not taking part (%) |                 |                 |
| - personal reasons              | 13.1            | 16.8            |
| - practical reasons             | 32              | 29.9            |
| - financial reasons             | 20.6            | 19.9            |
| - cultivation reasons           | 17.9            | 16.5            |
| - other reasons                 | 7.6             | 4.1             |
| - missing                       | 8.9             | 12.7            |
| Importance of width (%)         |                 |                 |
| - yes                           | 23.9            |                 |
| - no                            | 59.9            |                 |
| - missing                       | 16.1            |                 |
| Ideal width (m)                 |                 |                 |
| - mean (standard deviation)     | 5 (6)           | 4 (7)           |
| - median                        | 2               | 2               |
| - mode                          | 1               | 1               |

## 12.5 Conclusions

Besides private goods for the market, agriculture also produces public goods that are provided for free as externalities. These externalities can be negative or positive. One of the main positive externalities from agriculture are landscape elements and services. The quality of the landscape is dependent on what is produced on the land and which practises are used. Because of the drastic changes and intensification in agricultural production, the rural landscape is deteriorating and needs to be protected. In particular in urban areas, the protection of the remaining landscape elements by farmers gets more and more attention.

Because the rural landscapes are public goods, agricultural and/or environmental policies should consider this market imperfection. The rural landscape, desired by the public, will not be produced in sufficient quantity or desirable quality, if the market is the

sole allocative instrument in use. To advice policy makers on what policy measures should be implemented a valuation of the agricultural landscape can be of interest.

The most appropriate instrument to measure this value is the contingent valuation method, as it is the only method actually available, capable of measuring both use and non-use values. Although some criticism on the method, when used properly, very accurate and reliable results can be obtained from CVM. Several researchers have already used the method to evaluate rural landscape, but most of those studies are focussing on the consumers' WTP for a change in the agricultural landscape. Studies on the supply side are more rare. However, both demand and supply can have an influence on the 'price' setting of a public good.

This paper presents the first results of a survey trying to estimate farmers' WTA countryside stewardship measures. These measures have the objective to preserve the landscape and to pay farmers for their 'landscape production'.

The preliminary results from the survey reveal that, in general the surveyed farmers are not very much interested in the environmental policies. The only exception is the plantation of trees around the farm house. One possible explanation is that the surveyed farmers found it easier to answer the closed-ended questions (less missing values). Another reason is probably that farmers feel more concerned when their own farm house is involved (plantation in the yard). A nice looking farm is more attractive for them as well while planting trees or realising a pond gives them only trouble and this only for the pleasure of others. A lot of the respondents just answered that the measure on the maintenance of small landscape elements was not applicable on their farm. This can be true in reality because e.g. ponds are not possible everywhere. The high number of farmers not stating their WTA, seems therefore quite reliable and further analysis of the questions is necessary to have more detailed information on farmers' behaviour and WTA.

The mean WTA for the different landscape elements was more than twice as high as the compensations, which are foreseen in the already existing programmes. This means that also those farmers, who are interested in the measures do not agree with the actual compensation. They ask for higher compensations for their losses and interference in their farm practices. Policy makers will have to take this into account. Countryside stewardship measures need do more than just paying farmers for their losses in production. Clear information on why and how the measures will be conducted and valued are necessary to convince farmers of their role in preserving the agricultural landscape. A sufficient compensation is one important incentive, but not the only one. It is very important to involve farmers into the process of policy making. Therefore a study on the supply behaviour must complete the studies on the demand side for agricultural landscapes. The presented study is a first step in this direction. Besides the further analysis of the obtained data, also more concrete case-studies, i.a. the urban area of Gent, on specific projects for management agreements are planned for the near future.





## References

- Arrow, K., Solow, R., Portney, P.R., Leamer, E.E., Radner, R. and Schuman, H., 'Report of the National Oceanic and Atmospheric Administration Panel on contingent valuation'. In: *US Federal Register* 58 (1993) 10, pp. 4601-4614.
- Bonnieux, F. and Rainelli, P., 'Contingent valuation and agri-environmental measures'. In: Hofreither, M.F. and Vogel, S., (eds.) *The role of agricultural externalities in high income countries*. Wissenschaftsverlag Vauk Kiel KG, pp. 91-108, 1995.
- Colson, F. and A. Stenger-Letheux, *Evaluation contingente et paysages agricoles. Cahiers d'économie et sociologie rurales*, 39-40, 151-177, 1996.
- Coppens, A., Goemaere, E. and Van Huylenbroeck G., *Inventory and classification of countryside stewardship policies in Belgium*. University of Gent, Department of Agricultural Economics, 68 p., 1997.
- Drake, L., 'The non-market value of the Swedish agricultural landscape'. In: *European Review of Agricultural Economics* 19 (1992) pp. 351-364.
- Dubgaard, A., 'Economic valuation of recreation benefits from Danish forests'. In: Dabbert S., Dubgaard, A., Slangen, L. and Whitby, M., (eds.) *The economics of landscape and wildlife conservation*. CAB International, Oxon, UK, pp. 53-64, 1998.
- Garrod, C.D. and Willis, K.G., 'Valuing the benefits of South Downs environmentally sensitive area'. In: *Journal of Agricultural Economics* 46 (1995) 2, pp. 160-173.
- Hanemann, W.M., 'Valuing the environment through contingent valuation'. In: *Journal of economic perspectives* 8 (1994) 4, pp. 19-43.
- Hasund, K.P., 'Valuable landscapes and reliable estimates'. In: Dabbert, S., Dubgaard, A., Slangen, L. and Whitby, M., (eds.) *The economics of landscape and wildlife conservation*. CAB International, Oxon, UK, pp. 65-83, 1998.
- Hausman, J.A., (ed.) *Contingent valuation: a critical assessment*. North-Holland, Amsterdam, 1993.
- Heijman, W.J.M., Hiel, R.T.R., Kroese, E.P., Van den Noort, P.C., Silvis, H.J. and Slangen, L.H.G., *Leerboek algemene agrarische economie*. Stenfert Kroese Uitgevers, Leiden, pp. 579, 1991.

Holstein, F., 'The values of agricultural landscape: a discussion on value-related terms in natural and social sciences and the implications for the contingent valuation method'. In: Dabbert, S., Dubgaard, A., Slangen, L. and Whitby, M., (eds.) *The economics of landscape and wildlife conservation*. CAB International, Oxon, UK, pp. 37-52, 1998.

Merlo, M. and Gatto, P., *Inventory and classification of stewardship policies: discussion document*. Padova, University of Padova, Dipartimento Territorio e Sistemi Agro-Forestali, pp. 22, 1996.

Mitchell, R.C. and Carson, R.T., *Using surveys to value public goods: the contingent valuation method*. Resources for the future, Washington D.C., 1989.

OECD, *Project and policy appraisal: integrating economics and environment*. OECD, Paris, pp. 346, 1994.

Perman, R., MA, Y. and McGilvray, J., *Natural resource and environmental economics*. Longman, London, pp. 396, 1996.

Pruckner, G.J., 'Agricultural landscape cultivation in Austria: an application of the CVM'. In: *European Review of Agricultural Economics* 22 (1995) 2, pp. 173-190.

Tempesta, T., 'The economic value of rural landscape: an application to the area between Isonzo and Tagliamento rivers (Friuli-Venezia Giulia)'. In: Bishop, R.C. and Romano, D., (eds.) *Environmental resource valuation: applications of the contingent valuation method in Italy*. Kluwer Academic Publishers, Boston, pp. 213-232, 1998.

# 13. Analysing Farm Diversification Activities with the Transaction Cost Theory

*Ingrid Verhaegen and Guido van Huylbroeck*

## *Abstract*

This paper illustrates the use of the transaction cost theory <sup>1</sup> for the analysis of diversification activities in the agricultural sector. The marketing of farm products at farmers' markets in urban regions is used as a methodological example for a theoretical model for the evaluation of revenues, production costs and transaction costs of alternative marketing channels. Starting from this model the profitability of the transactions is analysed. To evaluate the governance structure, of the organisation of the farmers' market, the transactions are characterised for their specificity, frequency and exogenous uncertainty. On the basis of these characteristics the appropriateness of the governance structure is evaluated.

## **13.1 Introduction**

Flemish farmers are confronted with a great pressure on their income and management possibilities because of i.a. the changes in the agricultural policy, the growing environmental conditions and requirements, and not in the least because of the rapid decrease in agricultural area combined with the urbanisation of the countryside. Because land has become a scarce production factor the Flemish farmer is pushed into very capital intensive production methods and/or towards diversification. One of the possibilities for income diversification is to take up non-production functions like marketing and processing of agricultural products, offering recreation facilities, accommodating tourists, maintaining the landscape or the environment.

Although farmers are developing such diversification activities individually, a lot of farmers are doing this in co-operation with other farmers or consumers. An inventory in the Belgian agricultural sector has identified several of these initiatives wherein farmers and consumers co-operate (Van Huylbroeck et al., 1997). In these initiatives farmers diversify their income possibilities and search for more appreciation for their craftsmanship. The consumers involved in these initiatives are in search of new products and services or more food security. Examples of these initiatives are management contracts for specific sites, accommodations for rural tourism, food teams wherein consumers buy their agricultural products from local farmers on a contractual basis and farmers' markets (boerenmarkten).

---

<sup>1</sup> The following text presents research results of the Belgian 'Programme of Forward Social and Economic Research' initiated by the Belgian State - Prime Minister's Office - Scientific, Technical and Cultural Affairs. The authors assume full scientific responsibility.

Looking from an economic point of view to such collective action, questions arise about the profitability of such initiatives for the parties involved and about the appropriateness of the organisational form. The objective of this paper is to highlight the importance of the transaction costs for the correct evaluation of such diversification activities and their organisational form. The transaction cost theory does not only take into account production costs for the profitability analysis, but the full costs of the transactions. It also supplies a framework to evaluate the organisational form starting from the characteristics of the transactions.

The paper describes in the second paragraph the transaction cost theory and its main principles. The third paragraph deals with the application of the transaction cost theory to analyse diversification activities. This methodology is illustrated with an example, namely the analysis of farmers' markets in the Flemish region. In the last paragraph some conclusions are formulated.

### **13.2 The transaction cost theory**

Coase (1937) was one of the first to conclude that 'the operation of a market costs something and by forming an organisation and allowing some authority to direct the resources, certain marketing costs are saved' (Coase, 1937, pp. 392). It was however O.E. Williamson who developed the transaction cost theory that gave a theoretical explanation for the existence of transaction costs. Williamson stated that due to the combined existence of bounded rationality, opportunism, uncertainty (complexity) and small numbers market failures and thus transaction costs exist (Williamson, 1975). An internal organisation of the transactions can economise on these costs, but implies at the same time some extra organisational costs. If the market than well the hierarchical firm or another governance system is the most efficient to organise a transaction depends on the characteristics of that transaction. The three defining attributes in transaction cost respect are the asset specificity, the frequency and the uncertainty (Williamson, 1985). Thus in answering the make-or-buy question it is, according to the transaction cost theory, important to include also the transaction costs in the analysis and not only market prices and production costs. After characterising the transaction for its specificity, frequency and uncertainty, the most appropriate governance system to organise that transaction can be derived.

The unit of analysis in the transaction cost theory is thus the transaction which can be defined as 'an exchange which occurs between two stages of the production/distribution chain as the product changes in form and/or in ownership rights' (Hobbs, 1995, pp. 17). The transaction costs are then the costs of co-ordinating or organising the transactions (Beckmann, 1996). These transaction costs include the costs of drafting, negotiating and safeguarding an agreement, of obtaining, conveying and processing information, of monitoring and measuring the performance of agents, etcetera (Williamson, 1985; de Vor, 1992). A transaction cost analysis is always a comparative analysis between two feasible alternatives. In this way the relative changes in transaction costs, production costs and revenues are more important than the absolute magnitudes of these factors.

After discussing the most important features of transaction cost theory, it is possible to look at the application of the theory for the analysis of farm diversification activities.

### 13.3 Analysing diversification activities with the transaction cost theory

In the transaction cost analysis of diversification activities the unit of analysis is the accommodation of tourists, the management of a valuable site, the production of a farm product, the selling of a farm product, etcetera. The transaction costs are then related to the negotiation of the price for the room, searching information on environmental management, taking a course in cheese-making, searching buyers for the apple juice, buying a fax to gather the orders or a computer to organise the work or in other words the costs related to all activities or investments that are necessary to make the transaction possible.

In what follows the income diversification by selling farm products at a farmers' market is taken as a methodological example. Before analysing the profitability of this activity and the appropriateness of the governance structure the organisation and objectives of the farmers' markets are described.

#### 13.3.1 Farmers' markets in the Flemish region of Belgium

A farmers' market is a weekly, public market on which farmers sell their farm products directly to the consumers. Farm products are hereby defined as all processed or non-processed agricultural products produced on the farm and/or identified as products of that particular farm <sup>2</sup>. The first Flemish farmers' market started in September 1980 in Baaigem near Gent and by the end of 1982 there were 26 such markets. Since then some farmers' markets disappeared or became common public markets. In the beginning of the 1990s new initiatives gave existence to several new markets. Now there are about 20 farmers' markets active in the Flemish region with 18 of them in the neighbourhood of a city. The main objective of a farmers' market is to give the farmers the possibility to earn an income by selling their products directly to the consumer and to give the consumers the possibility to buy healthy, regional farm products at a correct intermediate price between wholesale and retail prices. Figure 13.1 gives a schematic representation of the marketing channel at farmers' markets. A market council or commission, with representatives of farmers and consumers, is in charge of the management of the activities of the market. The market committee, with only consumers, is responsible for new requests for admittance to the market, for the supervision on the market and for the controls on the farms.

The farmer selling his products at the market must pay a membership fee and every week a market toll. The farmer also has to agree to sell only own products at the market and to allow the market committee to control this. For this reason, he has to give the market committee every year his production plan and allow them to inspect his farm. Half an hour before the market starts all farmers come together around a price board and decide, under the supervision of a market commissioner, on the prices for the different products. The normal policy is to set the prices between the wholesale and retail price if the quality

---

<sup>2</sup> This in contradiction with the anonymous farm products that are sold through common marketing channels and in which the consumer can not identify the farm from where the product comes. Examples of farm products are fresh vegetables and fruits, fresh milk (non-processed farm products) and yoghurt, cheese, milk pudding, apple juice, jam, wine, bread, etcetera (processed farm products).

of the products is in accordance with the common products. For higher quality products, higher prices are charged.

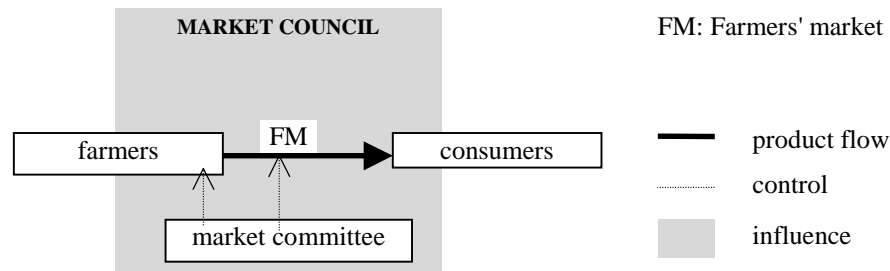


Figure 13.1 Schematic representation of the marketing channel of a farmers' market

The consumers coming to the market belong to two different groups: on the one hand consumers that are looking for healthy and fresh farm products and on the other hand consumers (mostly from the city) for whom the market is part of a visit to the countryside and the products typical for it. For the last group, the farmers at the farmers' markets are not only producers of farm products but also representatives of a certain lifestyle (Vannoppen, 1998).

For the application of the transaction cost theory, data were collected at the farmers' markets in Gaasbeek and Dilbeek situated near Brussels. Both markets were founded in the beginning of the 1980s. In Gaasbeek about 29 farmers and in Dilbeek about 25 farmers have permission to sell their products at the market. All possible farm products, processed and non-processed, from traditional or organic production, can be bought on these markets.

### 13.3.2 Profitability analysis of farmers' markets

First a theoretical model is given, which applies the transaction cost principles, to analyse the relative profitability of a marketing channel. Then this model is used for the analysis of the profitability of selling farm products at farmers' markets.

#### 13.3.2.1 A theoretical model

The following theoretical model makes it possible to compare two marketing channels (e.g. the common channel and an alternative one) on revenues, direct (production) costs and transaction costs. Suppose a marketing channel wherein three actors are involved: the producer (p), the middleman (m) and the salesman (s). The profit functions can then be written for the situation using the common (index 1) and for the situation using the alternative marketing channel (index 2).

Profit functions in channel 1:

$$\begin{aligned}\Pi_{p1} &= P_{p1}Q_{p1} - r_{p1}I_{p1} - TC_{p1} \\ \Pi_{m1} &= P_{m1}Q_{m1} - P_{p1}Q_{p1} - r_{m1}I_{m1} - TC_{m1} \\ \Pi_{s1} &= P_{s1}Q_{s1} - P_{m1}Q_{m1} - r_{s1}I_{s1} - TC_{s1}\end{aligned}$$

Profit functions in channel 2:

$$\begin{aligned}\Pi_{p2} &= P_{p2}Q_{p2} - r_{p2}I_{p2} - TC_{p2} \\ \Pi_{m2} &= P_{m2}Q_{m2} - P_{p2}Q_{p2} - r_{m2}I_{m2} - TC_{m2} \\ \Pi_{s2} &= P_{s2}Q_{s2} - P_{m2}Q_{m2} - r_{s2}I_{s2} - TC_{s2}\end{aligned}$$

With:  $P_p$ ,  $P_m$ , and  $P_s$  the product price received by respectively the farmer, the middleman and the salesman;  $Q_p$ ,  $Q_m$  and  $Q_s$  the quantities sold by respectively the farmer, the middleman and the salesman;  $I_p$ ,  $I_m$  and  $I_s$  the production factors and other inputs used by respectively the farmer, the middleman and the salesman;  $r_p$ ,  $r_m$  and  $r_s$  the remuneration of the inputs paid by respectively the farmer, the middleman and the salesman;  $TC_p$ ,  $TC_m$  and  $TC_s$  the transaction costs borne by respectively the farmer, the middleman and the salesman.

The total profit ( $\Pi$ ) is the difference between the revenues and the costs. The revenues depend on the price ( $P$ ) and the quantity ( $Q$ ) sold. The costs are threefold, namely the purchasing costs of the original product, the costs for the use of inputs ( $I$ ) that have to be paid a remuneration ( $r$ ) and the transaction costs ( $TC$ ).

A first application of the model is to calculate the profitability of a new marketing channel in comparison with the common channel (e.g. a labelled marketing channel). Under the hypothesis that the actors in both channels use the same inputs against the same costs, the profit of the new marketing channel can be written as follows:

$$\Pi_{\text{chain}} = (P_{s1}Q_{s1} - P_{s2}Q_{s2}) - (TC_{p1} - TC_{p2}) - (TC_{h1} - TC_{h2}) - (TC_{e1} - TC_{e2}) \quad (1).$$

A second possible use of the model is to evaluate the effect when the new marketing channel has fewer number of actors than the common channel, which is the case when the farmer sells directly to the consumer for example at a farmers' market. Then the profit of the channel can be written as

$$\begin{aligned} \Pi_{\text{direct sales}} &= \Pi_{p1} - (\Pi_{p2} + \Pi_{m2} + \Pi_{s2}) \\ &= (P_{p1}Q_{p1} - P_{s2}Q_{s2}) - (r_{p1}I_{p1} - r_{p2}I_{p2} - r_{m2}I_{m2} - r_{s2}I_{s2}) - (TC_{p1} - TC_{p2} - TC_{m2} - TC_{s2}) \quad (2). \end{aligned}$$

This makes it possible to evaluate if the farmer has taken over the middleman's and salesman's functions in a cost efficient way.

A third way to use the model is the one that will be used in this paper namely to evaluate the relative profitability of a marketing channel for one actor in particular. For the farmer the following equation can be used:

$$\Pi_{p1} - \Pi_{p2} = (P_{p1}Q_{p1} - P_{p2}Q_{p2}) - (r_{p1}I_{p1} - r_{p2}I_{p2}) - (TC_{p1} - TC_{p2}) \quad (3).$$

The latter equation makes it possible to take into account trade-off effects between revenues, input costs and transaction costs.

### 13.3.2.2 Applying the model to analyse the profitability of selling at farmers' markets

Starting from the model, figure 13.2 is composed. This figure gives a qualitative evaluation of the differences in revenues, production costs and transaction costs between selling at the farmers' market and selling through the common marketing channel. A qualitative analysis is made because it is impossible to collect all necessary quantitative information in particular with respect to most of the transaction costs. But even such a qualitative evaluation can give a good picture of the relative differences in profitability of farmers'

markets in comparison with the common marketing channels. In the next paragraph, the scores are explained in full for the farmers. For the market committee and the consumers only some specific remarks are given because of the similarity with the analysis for the farmers.

The farmer has higher revenues at a farmers' market in comparison with the common marketing channels. This because of the higher quality of the products but also because of the way prices are fixed. As already explained, at the market prices are regulated before the market starts by the price commission in which the farmers have a majority while in the common marketing channels they are price-takers (e.g. for one litre milk the farmer gets 20 BEF at the farmers' market while only 13 BEF from the milk factory). Of course the higher revenue is only correct under the assumption that the quantities sold are the same in both marketing channels what does not has to be true in all cases. Farmers for which the income from direct sales is considerable, are often specialised in the production of high quality products, but in lower quantities than on farms specialised in bulk production. This is mainly due to the fact that the labour used for the marketing of the products can not be used for the production activities. For these farmers the higher prices at the farmers' markets offset the ower quantities.

|                          | Farmer | Market committee | Consumer |
|--------------------------|--------|------------------|----------|
| Revenues:                | +      | +                |          |
| P                        | +      |                  |          |
| Q                        | / a)   |                  |          |
| Direct costs             | +      | +                | -        |
| Information costs        | +      | +                | /        |
| Search costs             | +      | +                | (-)      |
| Negotiation costs        | +      | +                | /        |
| Contract costs           | +      | +                | /        |
| - development            | +      | +                | /        |
| - surveillance           | +      | +                | /        |
| - control                | +      | +                | /        |
| Hidden transaction costs | -      |                  | -        |
| internal insecurity      | less   |                  | less     |
| Total transaction costs  | +      | +                | -        |

Figure 13.2 Comparison of revenues, direct costs and transaction costs in the marketing channel of farmers' markets with the ones in the common marketing channel

/: no change, -: less revenues/costs, +: more revenues/costs, ( ): subtle change

a) Under the hypothesis of unchanged quantities.

On the other hand, the selling of the products at the farmers' markets implies also higher direct costs in comparison with the common marketing channel related to functions which are normally taken over by the middlemen. For the participation at farmers' markets the farmer has to pay a toll every week, he has to buy some market equipment (a parasol, a table, a balance, etcetera), he has to buy a legal permission to sell his products at the market, he needs labour for the preparation of the products and the selling itself, he has a need for some equipment to process and/or store the products and he bears the costs for the



packaging of the products. There is a wide range in these costs. Some farmers who sell seasonal fruit at the market have almost no direct costs while others have considerable direct cost e.g. the chicken farmer who has bought a professional market truck. A second characteristic is that most of these investments are done step by step and that often second hand equipment is bought.

That the farmers at the farmers' market have higher transaction costs than in the common marketing channel seems obvious because of their active participation in the transaction process, while in the common marketing channel they are only producer and not salesmen. To get a better picture, the transaction costs are split up in different kinds of transaction costs. The higher costs for searching and acquiring information are in the first place due to the fact that the farmers at the farmers' market are involved in the fixation of the prices, so it becomes very important for them to have accurate wholesale and detail prices. A second reason for these higher information costs is the fact that there is no price competition at the farmers' markets but a very intense product competition so that it is very important for the farmers to be able to give plenty of information (about the production method, the storage of the products at home, methods of preparation, etcetera) to the consumers.

The search costs are the costs related to the search for possible transaction partners. Because the farmers come every week with their products to the market in search of buyers they spend more time to it than in the common marketing channels. The negotiations in the price commission before the start of the market are definitely a negotiation cost which is higher than in the common marketing channels. Other transaction costs are the contract costs. The market rules are drawn up by the farmers and the non-farmers in the organisation and every change in these rules is negotiated with the farmers and approved by the general assembly. There is a great social control between the farmers to avoid unfair competition of farmers who sell products not produced at their farm, or who do not follow the price/quality agreements. Furthermore some of the farmers participate actively in the yearly control visits of the market committee at the farms and the farmers pay (through their membership fee and the market toll) for the controls executed by the market commission, since the commissioners are paid a small remuneration.

Finally there are some hidden transaction costs that can be very important. These hidden transaction costs are related to the internal insecurity. With the sale of farm products at the farmers' market the farmers have definitely a higher security about the price level because they are involved in the fixation of the prices. Most of the markets attract enough consumers to guarantee a satisfying sales volume. So the internal insecurity for the farmers is smaller with transactions at the farmers' market and thus the hidden transaction costs are less. This small decrease of the hidden transaction costs are of course not enough to offset the increase in the other transaction costs.

This brings us to the conclusion that for the investigated farmers, selling their products at farmers' markets is profitable in comparison with the sale in the common marketing channels, because the surplus revenues are high enough to compensate the higher direct costs and the transaction costs. However, without the implication of transaction costs, the profitability would be evaluated higher than it actually is. It also does not mean that selling at a farmers' market is profitable in all cases. For each individual

case, the trade-off between higher prices for a better quality against lower volume and higher transaction costs must give an answer to this.

The market committee bears considerable transaction costs as the logical consequence of its role as organiser and co-ordinator of the farmers' market. The commissioners get a small amount to compensate for their activities, but in the end it is mainly volunteer work. If the farmers would have to remunerate all the work of the commissioners, it would mean that in total around 500 hours should be remunerated, which means an extra cost that, for most of the farmers at the market, would be too high to bear.

For the consumers the transactions at the farmers' market are a fair deal. They have to pay relative low prices because the prices are in general below retail prices (except for the prices in the great distribution chains) and also because they evaluate the quality (taste and freshness) and sometimes even the quantity (e.g. a bundle carrots) of the farmers' market's products as higher than for similar products in the common marketing channels (confirmed by a consumer survey). Besides these relative lower prices they also have lower transaction costs due to the lower search costs and the higher internal security. The search costs are smaller because at the farmers' market the consumers do not have to search for the best price-quality deal but only for the best quality because of the fixed prices. The internal insecurity and thus hidden transaction cost is less because the consumers have more confidence in the products, through the direct contact with the producers.

As a conclusion, it can be stated that for the farmers the sale of farm products at a farmers' market can be more profitable than the sale of the products in the common marketing channel, although he has to take into account the considerable transaction costs involved and offset this against producing higher quantities at a lower price. The market commissioners bear a lot of the transaction costs and they do this almost for free. The consumers have besides relative lower prices also a bit lower transaction costs when they buy their products at a farmers' market. Without the implementation of the transaction costs into the analysis the profitability for the farmers and the market commissioners would be evaluated higher than it is in reality and for the consumers the profitability would be evaluated a bit lower than it actually is.

From this profitability analysis, it can be concluded that the farmers' market is a better governance structure for the transactions with farm products than the common marketing channel. Why this is and if there are other, maybe more efficient, governance structures is the subject of the following section.

### 13.3.3 Analysing the governance structure

The analysis of the appropriateness of the governance structure for a certain transaction starts with the identification of the transaction's attributes, differentiating them from other transactions. These attributes are, as already stated, the specificity, the uncertainty and the frequency of the transaction. In a second step the appropriateness of the governance structure is evaluated.

### 13.3.3.1 Characterising the transactions with farm products

The specificity of a transaction can be defined as the (in)capacity to use the resources in an alternative activity by an alternative actor (Menard et al., 1995). Williamson (1985) distinguishes four types of asset specificity: site specificity, physical asset specificity, human asset specificity and dedicated assets<sup>3</sup>. Menard et al. (1995) give 3 additional types: product specificity, time specificity and brand specificity. With these 7 types of specificity the total specificity of the transaction can be assessed. The more specific the transaction is, or in other words the more the resources used in the transaction are very difficult to be used in another transaction, the less appropriate the free market will be as governance structure because it will impose considerable transaction costs.

The uncertainty connected with a transaction is mainly exogenous, which means that it looks at the uncertainty of the transaction environment. For example when a transaction takes place in an environment with frequent changing prices or unpredictable policy changes, with high uncertainty concerning the credibility of the transaction partners or about the development of the sector, the transaction partners will search for safeguards against these uncertainties. The uncertainty makes it also necessary to look at mechanisms making it possible to adapt to changes in the environment.

The frequency indicates how often the transactions take place. This is important in the sense that for very frequent transactions the installation costs of a specific governance structure will be easier to recover than for transactions only taking place once in a while. Frequent transactions make it possible to develop some communication economies. On the other hand a higher frequency increases the occurrence of disputes and thus justifies the installation of a formal organisation which can settle disputes without having to go to court.

The transactions for which an appropriate governance structure is searched are the transactions in which farm products are sold. The specificity of these transactions is schematically given in figure 13.3.

Transactions with farm products happen mostly within a limited area around the farm, which makes that they have some geographical specificity due to the fact that every region has its own product specificity's (e.g. the shape of the bread) and its own customs of transacting. Non-processed farm products have a weak product specificity in the sense that they only differ from products in the common marketing channel by their freshness and taste. Processed farm products have a higher specificity in the sense that farm yoghurt, farm cheese, farm juice can easily be differentiated from industrial made products by their taste, their structure, their colour, their packaging, etcetera.

Transactions with non-processed farm products have some temporal specificity because their seasonality while processed farm products have in most cases no temporal specificity.

For the transactions with non-processed farm products there are not much extra investments or specific dedicated assets needed. The production and the sale of processed farm products requires very specific investments in equipment (e.g. an ice-cream maker).

---

<sup>3</sup> Dedicated assets are general investments who are made in particular for that transaction.

The processing of farm products is a labour intensive activity - in most cases one member of the family is fully engaged with this task- and requires activities which are not necessary in a common agricultural practice. The labour for processed farm products can therefore be regarded as a dedicated asset. The specificity of the human capital is moderate for the processed farm products and weak for the non-processed farm products because the required knowledge to produce and sell the products is not directly useful in agricultural production activities.

|                          | Non-processed farm products | Processed farm products |
|--------------------------|-----------------------------|-------------------------|
| Geographical specificity | +                           | +                       |
| Product specificity      | +                           | +++                     |
| Temporal specificity     | +                           | /                       |
| Specific investments     | /                           | +++                     |
| Dedicated assets         | /                           | +++                     |
| Human asset specificity  | +                           | ++                      |
| Brand specificity        | ++                          | +++                     |
| Total specificity        | +                           | +++                     |

Figure 13.3 Specificity of transactions with farm products  
 /: no specificity; +: weak specificity; ++: moderate specificity; +++: high specificity.

Finally the brand specificity can be seen as the sum of the specificity of the brand itself and the specificity of the information that accompanies the products. Farm products sold at the farmers' market have a very specific brand, connected to the farm where they are produced. In particular the pre-packed processed farm products wear a picture or at least the name and address of the producing farm. The research revealed that the information accompanying the farm products is very important. Information about the production methods, about the cause of some anomalies (e.g. frost damage on pears), about the farmer and his family, make that consumers have a greater confidence that products sold at farmers' markets are healthier and more environment friendlier produced. This is in particular the case with the processed products because there the taste, the structure and the perishability is clearly different from the products in the common marketing channels (e.g. the fact that the yoghurt can not be stored for a long period is for the consumers at the farmers' market an indication that it does not contain preservatives). Non-processed farm products have only a moderate brand specificity due to the quite subjective information that accompanies the products while brand specificity in most cases is higher for the processed farm products because there the specific brand (namely the farm) is on the packaging and the clear difference with common processed products.

The transactions with farm products take place in an environment that has a moderate level of insecurity. The production and the sale of farm products is not yet fully regulated so that the farmers have still to deal with some uncertainties about sanitary rules, taxation, etcetera. The market insecurity depends on the sector; for example the dairy sector is very stable, while the quantities and the prices at vegetable auctions have a significant variation

within and between seasons. The frequency of the transactions is high, most of the time weekly or in some cases almost daily.

As a conclusion, transactions with farm products at farmers' markets can be characterised as highly specific for the processed farm products and weakly specific for the non-processed farm products, with a high frequency and taking place in a moderately uncertain environment. On the basis of these characteristics, the appropriateness of the farmers' market as governance structure can be evaluated.

#### 13.3.3.2 Evaluating the governance structure

The transactions with processed farm products are highly specific, which indicates immediately that the free market is not the most efficient governance structure. The farmer wants a reward, a surplus price, for the specificity of his products and for the specific investments done. This surplus price can only be reached when the specificity is maintained and clearly communicated. Because characterising the specificity of farm produced products is hardly possible in written words, partly because of the subjective character of the information, the most efficient way to maintain and communicate the specificity is the direct contact between producer and consumer. This explains why the free market with its anonymous sellers and buyers is not the most efficient governance structure to sell these products. When farmers sell their products individually at the farm, in a farm shop or at common public markets a surplus price is possible. However this requires high transaction costs because the farmers have to make the transaction possible by their self. By co-operating in a farmers' market and through the work of the market commission, a considerable economy of the transaction costs becomes possible, with in surplus the fact that a farmers' market has an own specificity. Products sold at a farmers' markets are not only farm products but also farmers' market's products in the sense that farmers' markets stand for small, pleasant markets with friendly service and reasonable prices for local producers and consumer, or in other words for a lively countryside. A too formal organisation, for example a co-operative, seems not optimal because then the products lose again some specificity because of the weaker link between producer and consumer.

The high frequency of the transactions with farm products makes it possible to recuperate the cost that the organisation of a farmers' market implies. The high frequency of the transactions also gives rise to a certain familiarity across the transactions and between partners, so that some communication economics of scale can be realised and that conflicts can be settled within the organisation without high costs.

Finally also the uncertainty and administration involved when selling farm products can be more easily dealt with through an organisation. Through the market council, problems can be discussed and common reactions or solutions proposed. The market council is also a communication point between third parties (e.g. the government) and the producers of farm products.

## 13.4 Conclusions

The transaction cost theory provides a good theoretical framework to analyse the profitability of diversification activities and the appropriateness of the governance structure through which they are organised. The theory puts the transaction in the middle of the analysis and includes, besides production costs also transaction costs in the profitability analysis. To analyse the governance structure the transactions are first characterised for their specificity, frequency and uncertainty, after which the appropriateness of the governance structure can be evaluated and possible improvements formulated.

The analysis of the transactions with farm products at farmers' markets was taken as an example to illustrate a possible methodology for a transaction cost analysis of diversification activities. To analyse the profitability, a theoretical model is described, allowing to evaluate the revenues, production costs and transaction costs of two alternative marketing channels. Using this theoretical framework, the transactions at farmers' markets were analysed qualitatively. This analysis shows that the transaction costs need to be taken in account in order to get a full insight in the profitability of a marketing channel. Neglecting the considerable transaction costs for the farmers, would lead to an overestimation of the profitability. Transactions with farm products are characterised as highly specific, with a high frequency and in a moderate uncertain environment. The farmers' market was evaluated as a good governance structure to organise such transactions.

Other diversification initiatives can be analysed using the same methodology calculating the profitability for different agents including the transaction costs and evaluating the appropriateness of the governance structure starting from the specificity, the frequency and the uncertainty of the transactions. At this moment, research is under way for different examples of such initiatives.

## References

Beckmann, V., 'Transaction Costs and Institutional Choice in Agriculture'. In: *The Example of Family vs. Hired Labour*. Paper presented at the VIIIth EAAE Congress in Edinburgh, Scotland, September 3rd-7rd, 1996.

Coase, R.H., 'The Nature of the Firm'. In: *Economica* vol. 4 (1937) pp. 386-405.

Hobbs, J.E., 'Evolving Marketing Channels for Beef and Lamb in the United Kingdom- A Transaction Cost Approach'. In: *Journal of International Food and Agribusiness Marketing* 7 (1995) 4, pp. 15-39.

Menard, C., E. Valceschini and G. Garnier, 'La relation entre actif spécifique et innovation organisationnelle'. In: *Le cas du label avicole*. Contribution à l'Ecole chercheurs INRA-ESR. Grenoble-Col de Porte - Chartreuse, 6-7-8 avril, 1995.

Van Huylenbroeck, G., I. Verhaegen, E., Collet, M., Mormont, P., Stassart, and J. Vannoppen, *An inventory of emerging innovation projects in Belgian agriculture*. Paper presented at the 52nd EAAE Seminar. Parma, June 19-21, 1997.

Vannoppen, J., *Consumentenonderzoek Boerenmarkten Gaasbeek en Dilbeek*. Unpublished research document, Leuven, Vredeseilanden-Coopibo, 1998.

Williamson, O.E., *Markets and Hierarchies: Analysis and Antitrust Implications*. New York, Free Press, 1975.

Williamson, O.E., *The economic institutions of capitalism*. New York, Free Press, 1985.

# Case studies



## 14. Case studies: overview

*Hans Hillebrand*

Borgstein and Hillebrand investigate how the market and chain approach that has been developed in agriculture can be translated for and implemented in the Tourism and Recreation Sector (T&R) in the Dutch province Brabant. They first look at the challenges for the T&R. Next, they describe the market and chain approach in more detail and give a short overview of the experiences in Dutch agriculture. In the last part of the paper their attempts to implement the developed chain knowledge in T&R is at stake (the co-innovation project TREK-Brabant).

Elbersen and Van Dam show the main motives of households to move to rural areas with plentiful natural and aesthetic amenities in the Netherlands and the UK. People are increasingly interested in living in nice rural areas, and these interests are translated in behaviour: they move to these areas. This is well in line with the process that is called the 'commodification' of the countryside. It means that the traditional agricultural function of rural areas has become less important, whereas new activities have been attracted to the countryside. At the same time the values and preferences of people have changed: they now put more emphasis on quality-of-life-aspects.

The paper of Haartsen, Groote and Huigen is related to the paper of Evans in the general part of the book. Their paper first describes land-use changes that took place in the Netherlands from 1950 to 1993. Next, it explores the rural images existing among people in the Netherlands. Questions are: which aspects of the countryside play a role in the formation of these images; do the images change with age or place of residence? To answer these questions a pilot survey was carried out among students of the University of Groningen. The conclusion is that rural images differ for specific age groups: younger people have more morphological, visual images which strongly relate to agriculture, whereas senior people have more sociocultural associations with the countryside and consider it an area with both agriculture and nature. The residential background of respondents also influences the constructed images.

The French paper of Fleury, Camacho, Chavaudret and Redon discusses the new roles of agriculture expected by modern town planners. The first part gives an impression of the present politics regarding the Région Ile-de-France, the green belt around Paris. The second part is devoted to an attempt to assess overrun costs on cash crops farms due to urban vicinity. A new contract between towns and farmers is necessary, is the conclusion. In this contract the urban needs should be defined as well as the prices of new services provided by agriculture.

# 15. Public - private innovation: market and chain approach implemented in the Tourism and Recreation sector in the Dutch province Brabant

*Marien Borgstein and Hans Hillebrand*

## *Abstract*

Tourism and recreation (T&R) is world-wide an important economic sector. This is also true for the T&R in the Dutch province Brabant. However, there are developments that threaten the sector. These developments are for instance: individualisation, more competition, and a growing emphasis on the quality of the environment.

The agricultural sector in the Netherlands has been confronted with more or less the same challenges. In this sector it was concluded that one actor itself could not accomplish the desired changes. Only when all parts of a production chain would act together, solutions could be realised. This acting together is known under the name 'market and chain approach'. This approach implies things like horizontal and vertical co-operation and fine-tuning, market definition and segmentation, and chain management. The approach was implemented in the sector by performing several pilot projects. These pilots are public private partnerships. They have three functions: examples for followers; bridges between theory and practice; knowledge development.

Central in this paper is the question how the market and chain knowledge that has been developed in agriculture can be translated for and implemented in T&R in Brabant. T&R is defined here wide, including recreation on the farm, nature and rural culture.

In order to answer this question we first look at the challenges for T&R. Next, we describe the market and chain approach in more detail and give a short overview of the experiences in Dutch agriculture. In the last part of the paper we describe our attempts to implement the developed chain knowledge in T&R in Brabant. The paper will end with some points for discussion.

## **15.1 Introduction**

### *T&R*

The sector Tourism and Recreation (T&R) is world-wide in expansion. According to Go and Govers (1997) in 2000 T&R will be the largest economic sector in the EU. Also in the Netherlands the sector is developing well. Between 1992-1995 employment has grown with 6,5 per cent. That is a relatively strong rise. To compare: in the same period the employment figures in banking and assurance did not grow at all, and the figures in the food industry and agriculture even diminished with 2 per cent. The expenditure on T&R in the Netherlands amounted in 1995 to 40 milliard guilders. This expenditure will probably

rise in the near future due to factors like a growing purchasing power, demographic developments, a higher mobility and better connections.

In Brabant T&R is an important sector too. Brabant is one of the 12 provinces of the Netherlands. Almost 2.3 million people are living there (15% of the total Dutch population). The province contains 12% of the total area of the Netherlands. So its population density is above the national average. Nevertheless, Brabant can be seen as a 'green' province. Even the people living in the cities have easily access to the rural area. In most cases it takes a trip of less than 15 minutes by bike to get there.

Brabant has many alternatives for recreation and vacation. Important are the many possibilities for a longer stay (hotels and parks with houses). Their visitors can recreate in the large rural area (visiting for instance nature parks or farms) or can go to one of the old cities. Real eye-catchers are the several attraction parks, for instance the Efteling, that has as a theme 'fairy tales'. This park attracts yearly 3 million visitors and creates a turnover of more than 100 million guilders.

Approximately 13% of the Dutch population ( $0.13 \cdot 15.4$  million = 2 million) per year is coming to Brabant for vacation. Besides vacation, people also visit Brabant for just one day. The number of people involved has been estimated at 130 million visitors a year.

According to recent figures of the provincial authorities, T&R in Brabant generates a turnover of 4-5 milliard Dutch guilders. Approximately 40 thousand people (4.5% of the working population) are working in this sector (Province, 1995).

### *Evaluation*

Although the above description might give the idea that T&R in Brabant is a very competitive economic sector, this is not true. The sector is very fragmented and contains a lot of small players. Many entrepreneurs are fully occupied with operational management, and do not have any time to think about new strategies. The sector is supply oriented and technological innovation is slow. There are several developments - one could say 'challenges', that will make clear these weak points, unless of course the sector will re-orientated. These challenges can be summarised with the words: individualisation, more competition, a changing role of the government, more attention for the quality of the environment, and fast changes in technology (Taskforce TREK-Brabant, 1998). In the following these challenges will be described in more detail.

### *Individualisation*

Market segments and target groups are becoming more and more difficult to identify. The market has changed: every single consumer has its own specific demands. It is up to the producer to produce according to these specific individual demands. If producers cannot fulfil these demands, the consumers will go elsewhere.

### *Competition*

The producers in T&R are facing more and more competition. If they do not meet the specific demands of the consumers, the consumers will go somewhere else. That can be

another province of the Netherlands or even abroad. Besides competition within T&R, there is also competition with other sectors as consumers can only spend their money once. This can be on leisure and recreation but also on other activities, services or products.

### *Government*

The government is reconsidering its position. Arrangements that can be regulated by the market, should be regulated by the market. This enables the government to restrict itself to matters that should have public attention. A good example of this policy is the project 'Recreation on its own feet' (ROEB). This project has as an aim to reorganise public recreation in such a way it can do without government support.

### *Quality of environment*

The importance of sustainable growth is more and more emphasised (VROM et al., 1997). This means that economic growth may not be established on the costs of public goods like nature and scenery. So, if companies in T&R want to increase their activities, they have to take this drive for sustainability into consideration. One of the main topics in this context will be transport and mobility in the view of sustainability.

### *Technology*

The possibilities of the technology are changing fast, especially when it comes to information and communication technology (ICT). Companies who are afraid of these new developments will loose the competition with firms that make use of the possibilities of these technologies (Go, 1997).

### *Aim and question of our study*

The challenge is to change the above-mentioned threats into opportunities. The aim of our study is to find a way to realise this. Our starting point is the observation that the challenges T&R has to meet have similarities with the challenges the agricultural sector was - and still is - confronted with. Another consideration is that both sectors have a lot of very small firms and a few big players. The agricultural sector chose as a solution the market and chain approach and found a way to implement it. This brought us to the idea that this approach could be useful for T&R as well. Central in this paper is therefore the question how the market and chain knowledge that has been developed for agriculture can be translated for and implemented in Brabant for people, organisations and entrepreneurs involved in T&R. T&R is defined here wide, including recreation on the farm, nature and rural culture.

### *The paper*

In the next section we describe the market and chain approach in more detail. Section 15.3 gives a short overview of important developments in Dutch agriculture, including the

attempts to strengthen the chain knowledge in this sector. In the last chapter we describe what we have done to implement the developed chain knowledge in T&R in Brabant. The paper will end with some points for discussion.

### 15.2 The market and chain approach

#### *Description approach*

In several sectors market and chain knowledge has been used to structures the production of different kinds of products. By using market knowledge the consumers and their wishes and requirements have been put in the spotlight. They should be the starting point for every producer. Once it is clear what the consumers want, it has to be produced as efficiently as possible: the right products of the right quality at the right time available against the most competitive price. To make an efficient production system possible, not only producers but also other links become involved and have to act together. By acting together a chain will originate. A production chain consists of several links with specific responsibilities and activities related to the production process. These links have a vertical relationship with previous and following links. A link of a production chain in practice consists of more than one actor or participant. Different actors of a production chains can be related, horizontally or vertically, to one another because transactions of goods take place.

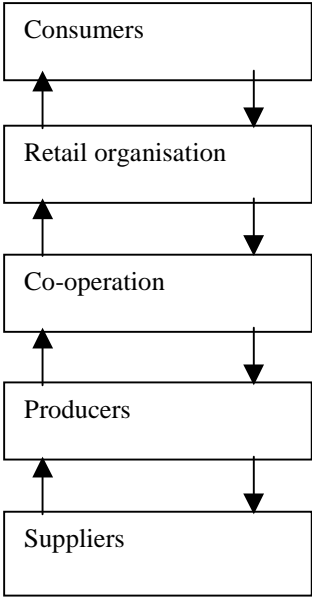


Figure 15.1 Production chain

In a production chain, the assortment of products produced will be tuned with consumers' wishes on the one hand and the possibilities of the potential partners in the chain on the other hand. A chain will be focused on an efficient production through the

production of products with the highest possible value added. Every chain has as its starting point a certain group of consumers. This can be the 'average consumer', or a specific group with special wishes. Crucial in the chain is the function of the retailer. At the one hand he translates the wishes of the consumers into production demands for the producers. At the other hand he bundles various streams of production into a product assortment from which the consumers can pick what they desire.

In order to guarantee the quality of certain products, as well as to make communication easier, co-operations of producers can be found in many chains. Of course every chain also contains producers and suppliers. Market oriented chains should be:

- flexible, so that they can change when the wishes of consumers change;
- responsive, so that they can produce what consumers want at any specific moment;
- efficient, so that they can offer a competitive price;
- innovative, so that they can introduce the latest knowledge now and in the future.

*How to organise a chain*

The NEHEM Consulting Group (NEHEM, 1996) has formulated a chain analysis model in which for organising a chain five steps have been identified. These steps indicate topics to think of when analysing an already existing chain (e.g. the beef chain) or establishing a new one (e.g. a recreation chain). Once a chain has been organised, the result has to be judged. Not only the market (consumers) will do this judgement but also the different parts of a chain and the society as a whole, see figure 15.2.

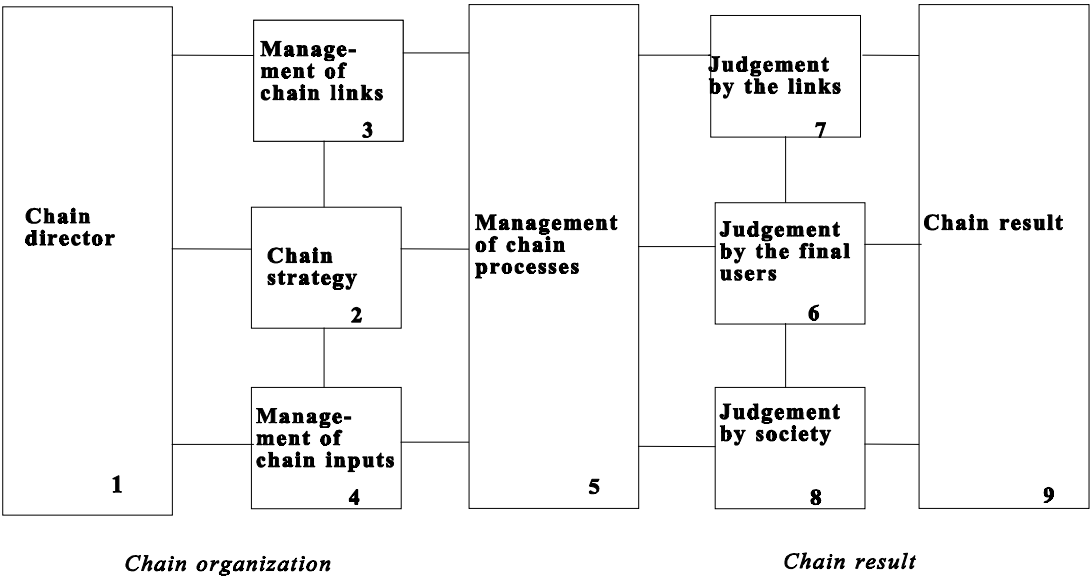


Figure 15.2 Chain Analysis model

In order to organise a chain someone has to take the initiative. This actor will not be appointed by other actors, he will just take the initiative himself, aiming to structure the

process of chain organisation. In order to be successful, this actor needs to have commitment and support of the other actors involved. Once the chain director is known (not necessary the same person as the initiator), a chain strategy can be formulated under his guidance. The chain strategy will consist of strategic goals (how) and operational goals (what). The consequences of these goals will be translated towards chain formation, chain composition and chain positioning. So, the chain director is not only showing the initiative but is also responsible for the tuning of acting together of the different actors.

In general, a production chain has three possible strategic goals, or a combination of these three:

- chain differentiation: emphasising the uniqueness of the product;
- integral chain care: guaranteeing the quality of the product and the production process in order to build up a trustful relationship with the buyers;
- chain optimising: focus on low cost price by co-operation in the chain and an efficient production process.

After indicating the chain director and chain strategy, the next step in the chain organisation model is the management of the different links, the input and the activities required in order to make the chain operational. These steps are all focussed on optimising the product flow in the chain in order to deliver the right products of the right quality at the right time in the right place for the right price (price according to the buyer).

#### *Advantages of working in chains*

The advantages of working in chains can be summarised as follows:

- flexible and responsive supply of products and services through which consumers will be served tailor-made, now and in the future;
- efficient production against minimal costs;
- besides economies of scale the participants will also have a stronger voice in political and social discussion;
- bottlenecks will be easier solved or even prevented before they will originate;
- tuning of social interests and individual interests of entrepreneurs and companies involved can be made easier and more considered (e.g. economy against ecology);
- knowledge will be developed and spread among the participants through public-private innovation;
- the chain approach has generated positive spin-off on other sectors, e.g. agriculture.

### **15.3 Experiences in agriculture**

#### *From shortages to overproduction*

After World War II the main goal of agricultural production in the Netherlands was to produce as much as possible. The key words were specialisation and scale enlargement. This policy was very successful. To give some figures: in 1950 only 7 per cent of the farms

had 20 hectares of land or more. In 1988 this was 28 per cent (Douw, 1990). The number of milk cows per farm rose from 8.5 in 1960 to 39.3 in 1988. In the same period total production more than tripled, while the added value per labour unit became eight times larger. But the best proof of the success maybe is the fact that there gradually appeared a situation of overproduction. By means of policies like for instance the so-called 'super levy' the effects of this overproduction remained hidden for a while. But policy makers realised that these policies could not last forever, and the production should be more regulated by the market.

When a situation of overproduction is emerging, this creates an enormous power for consumers. They come in a situation in which they can choose what products to buy from different suppliers. Because consumers had become richer, they demanded a higher quality and more product differentiation. The Dutch agriculture was not suited to fulfil these demands. Its strength was the produce of bulk products at a reasonable price, not a consumer oriented production. Another problem was that the agricultural production was a severe constraint for the environment.

Several reports were written about the crisis in Dutch agriculture. The report of the 'Van der Stee-commission' (Hillebrand and Reinhard, 1996) was the first. It made a plea for a market leadership strategy for Dutch agribusiness. This strategy is characterised by a cost leadership strategy in a few bulk markets and a differentiation strategy (e.g. private labels, production and delivery of foods in time) in other markets. The most influential report was that of A.T. Kearney (1994), titled 'De markt gemist' (Did we miss the market?) It concluded that in many markets a cost leadership strategy was not feasible for Dutch agribusiness, because the Dutch factor allocation was less suitable for efficient bulk agribusiness. In an increasing number of markets, consumers and retailers' wishes would demand a differentiated approach of the marketing mix components. It would be very important, according to A.T. Kearney, to develop more market orientation in the sector. So key words in the diagnosis of the crisis were market-oriented production and differentiation.

### *Differentiation and market orientation*

To create differentiation in Dutch production, however, was not so easy as it may look at first sight. The whole knowledge system in the Netherlands was directed towards a uniform, but very efficient agriculture. It consisted of a system in which universities developed knowledge. This knowledge was made more practical on special testing farms. Extension services helped pioneer farms to adopt the practical knowledge. Later, they also assisted the other farmers. And then the process started again. In several agricultural sub-sectors there were also study clubs of farmers in which knowledge about production was exchanged (Van den Ban, 1963; Rogers and Shoemaker, 1971).

To create more differentiation instead of uniform bulk production, a new way to create innovation had to be set up. This was found in co-innovation projects. These projects had three functions:

- to act as an example for others;
- bridging theory and practice;
- development of knowledge.



Part of the knowledge that was developed in a pilot became only available for the partners in the projects. The more general knowledge became also available for others. This was found back in the financing structure: public-private innovation. Fifty per cent of the budget was invested by the enterprises that took part in a project, while the government funded the other fifty per cent.

To stimulate connection and synergy between the several pilots, the function of a 'projects director' was created. This director functioned as a secretary for each pilot project, and thus had an overview of what was happening. He also was the person of reference for entrepreneurs who would like to start a new project. To co-ordinate all this, the foundation Agri Chain Management was established. This foundation has executed more than 60 projects in the period 1995-1998 with a budget of more than 90 million guilders. One of these projects has been carried out in the ornamental sector related to the export of flowers and potted plants, see figure 15.3 Plantania-case. This case indicated the financial results that can be realised once the participants start acting together in chains.

***Business participants:***

Trade business and exporter of flowers and potted plants, German builders' merchant chain and a co-operation of potted plants producers.

***Goal:***

To develop and implement a chain concept in which several links of the chain take their responsibility towards the final consumer. This should be realised through the development of an information system in an exiting chain for the export of a varied assortment of potted plants. This information system has to guarantee an effective way of communication between consumer and producer according to well defined quality standards. This chain information system will exchange information to the consumers on the basis of life styles. The information will be related to the available assortment and its quality. The system will also register the wishes and supply patterns of customers (micro marketing). The system will also make the exchange of information within the chain and direction of the chain possible.

***Realised advantages by the participants:***

For participants it will be possible to react on the wishes of customers, to produce less trash and realise a higher return speed through which the customers will buy fresher flowers and potted plants. The builders' merchant chain realised a higher turnover per m<sup>2</sup> floor area, improvement of its quality image and a higher customers' satisfaction. The producers were able to improve their market share on the German market.

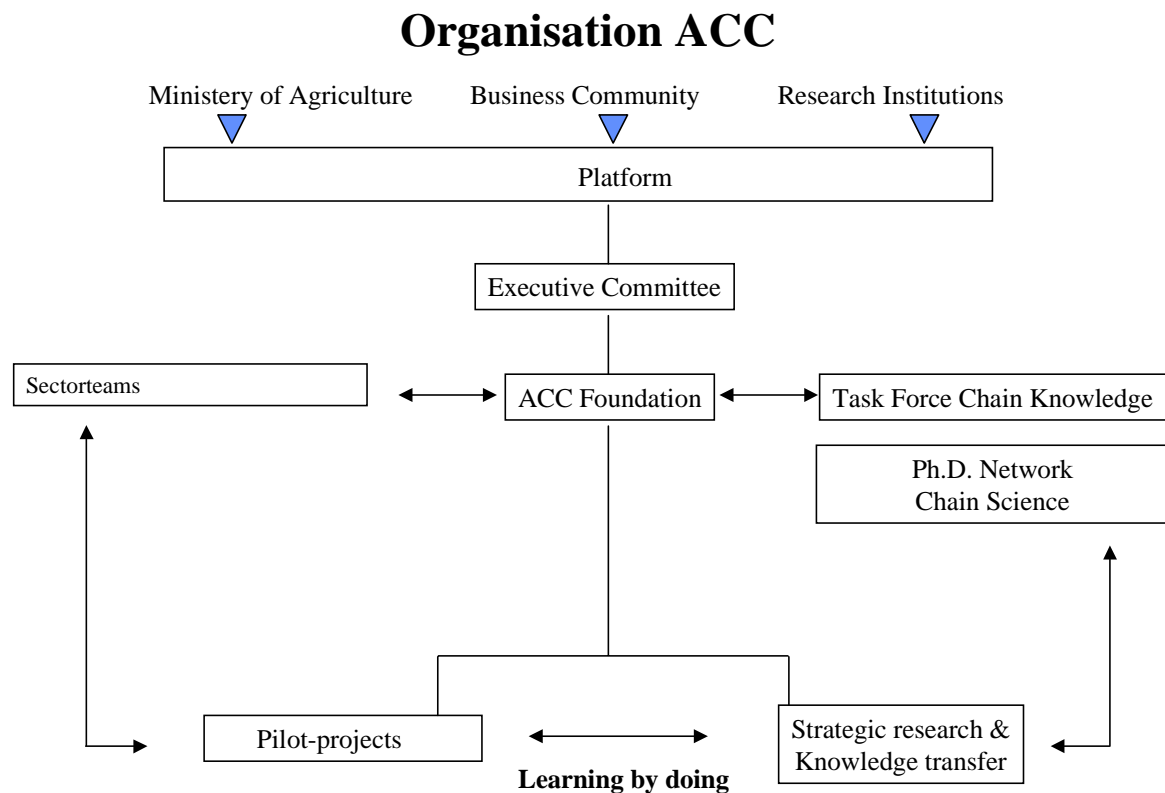
***Financial results in the test-case:***

- 15-50% increase in sales;
- 19% reduction of losses;
- 5-15% decrease of total costs.

*Figure 15.3 Plantania-case*

Source: AKK-Nieuwsbrief no. 16, 1998.

The structure of the foundation Agri Chain Management can be visualised as follows:



## 15.4 The case Brabant

### *Background*

A key person in T&R in Brabant, a real spider in the web, was convinced of the fact that this sector should make changes to remain competitive in the following millennium. He was highly impressed by the chain co-operation and knowledge development in agriculture, and thought this might be a solution for T&R too. His idea was that a study should be performed in which the feasibility of chain co-operation in T&R should be investigated. He was able to raise funds for such a study. One third of the needed money came from T&R organisations and businesses, one third from the local government, and one third from the national government (Ministry of Agriculture, the project 'Recreation on its own feet').

LEI, together with the Catholic University of Brabant (KUB) and the Erasmus University of Rotterdam (EUR), was asked to perform the feasibility study (Taskforce, 1998). The aim of the study was fourfold:

- to sketch, on the basis of an analysis of consumer trends and the current supply, how a consumer oriented chain organisation could be developed in the T&R in Brabant;

- to create support for the suggested development;
- the identification of pilots that can function as a base for a further growth of chains;
- a plan to come from pilots to a total re-orientation of T&R in such a way that there will be added value in comparison to the current situation with regard to economic performance and sustainability.

The nickname of the project became 'TREK-Brabant' (the Dutch word 'trek' means 'pull'; TREK is also the abbreviation of 'Toeristisch-recreatieve ketens' - chains in T&R).

The feasibility study was carried out in the period January 1998 till September 1998. At several moments there were discussions with selected stakeholders (the parties that paid for the feasibility study). At the beginning of October our plans were presented for a greater public, and welcomed enthusiastically. In this Chapter we will describe the results of the feasibility study so far.

### *Analysis of demand*

A secondary analysis was made of the available data of recreational consumers in the province Brabant (Van den Heuvel, 1998). It was important to get information on the question for what reasons people visit Brabant. According to our analysis, there is not one reason for doing this, but there are several. The points of attraction can be summarised with the following key words: nature; repose and space; the small scale; nostalgia; culture of Brabant; hospitality and sociability; authenticity; adventure. The analysis of demand taught us also what should be done to get satisfied customers. Important is a good communication to get information about their wishes. Helpful with regard to this would be the introduction of a client information system. A second point is that supply should be flexible and responsive. By the first word we mean that the range of products and services can be adapted according to the changing wishes of consumers. By the word 'responsive' is meant that the products should arrive at the moment they are wanted. A third point is that consumers are eager to compose their own package of recreational activities. The last point is that all products and services should be delivered at competitive prices. In order to achieve all this, co-operation between producers and suppliers in different sectors is necessary.

### *Analysis of supply*

We made an analysis of existing or developing co-operations of suppliers, because we thought that these co-operations were the best entrances for pilot projects. A quick overview taught us that there were already more than fifty of these co-operations. This number of co-operations was too large to analyse, so we made a first selection. The following criteria were used to do so (figure 15.4). The information for the selection came from regional and sector experts.

- Trust between co-operating parties
- Positive energy
- Innovation oriented
- Founded bottom-up
- Expected quick win

Figure 15.4 Criteria for the selection of co-operations

Most of the co-operations found their start not in a need for specific products from consumers, but in the wish of producers to enlarge their sales. A main purpose of many co-operations was the promotion of their activities. Another characteristic was that many co-operations were restricted to one sector only. There were only a few in which producers of more sectors were involved.

Horizontal co-operation was dominating. Vertical co-operation, important to make production more efficient, was almost missing. Very hopeful was the finding that the co-operations were occupied with a very wide range of products and services. Examples are regional products, bed and breakfast, and encounters with special people. This would make it possible to offer in the future pilots tourist a varied assortment in combination with other already existing activities.

### *Pilots*

Looking at the developments in demand, and taking into account the strong points of supply and some basic conditions (figure 15.5), in discussions with entrepreneurs five pilot projects were formulated.

- Consumer oriented
- Bottom-up founded
- Two or more links of the chain involved
- Knowledge intensive
- Connection and synergy in relation to total project
- 50% privately funded
- Positive radiation
- Leader available

Figure 15.5 Basic conditions for pilot projects

All pilots are directed at another theme. Of course, these themes are related to the above mentioned reasons for people to visit Brabant. We will elaborate here on one pilot. We chose the pilot 'Goei Land' (The Good Land). The aim of this pilot is to develop new, innovative economic activities to strengthen the economy of the rural area. The problem is that there are many initiatives in agriculture with regard to agritourism, but these initiatives are supply oriented and not co-ordinated. The consequence of this is that the economic impact of agritourism is only small. The expected result of the pilot is:

- Agritouristic arrangements;
- Chain co-operation;

- Client information system;
- Reservation and register system;
- System to guarantee quality.

In order to achieve this result, several activities are planned:

- The choice of a consumer segment and the investigation of the wishes of this segment;
- The development of a marketing strategy;
- Chain formation and organisation: who should join, what are his responsibilities and tasks, etceteras. Use will be made of three current initiatives: 'Goei Kamer' (The Good Room, for stays overnight); Goei Volk (Good People, for activities during the day) and Goei Eten (Good Food, regional products);
- A logistic concept for the distribution of services and people involved.

The initiative for this pilot is with the Brabant Farmers Organisation, the NCB. The NCB works together with the Office for Tourism in Brabant and with the Centre for Holiday Reservation (VBC). Knowledge organisations that will probably participate are LEI-DLO and the University of Brabant. The pilot will start January 1, 1999, and will last 2 to 3 years. It is 50% funded by the co-operating enterprises. The budget for 1999 is approximately 200,000 guilders (figure 15.6).

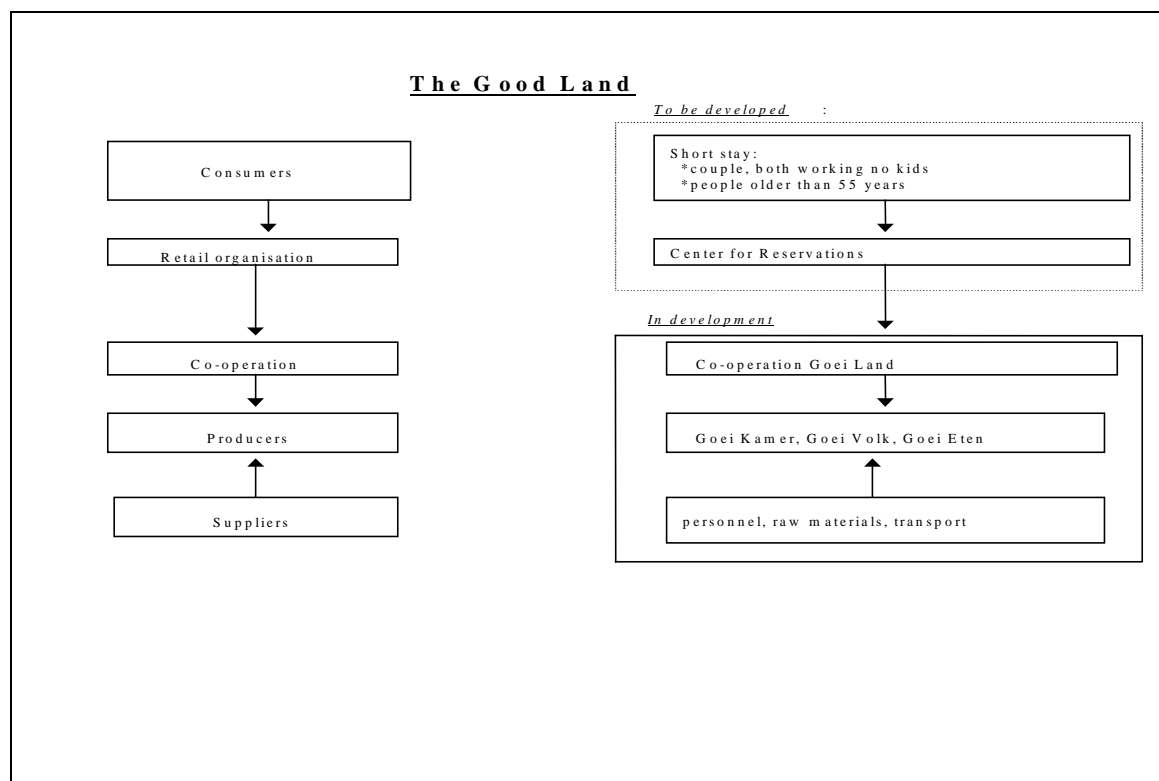


Figure 15.6 The pilot project 'Goei Land' (The Good Land)

## Organisation

In 1999 TREK-Brabant will have as its main basis and focal point the five selected pilot projects. They form the core of the organisational structure. To develop a view on the future of T&R in Brabant, the board that supported the feasibility study, will be continued. This board that consists of stakeholders in the sector, also has as a function the communication to T&R people not yet involved in the projects (figure 15.7).

The only overhead is the function of 'projects director'. This person is involved in all pilot projects, and is responsible for connection and synergy between these projects. He also is the one that can help people to formulate new pilot projects. Of course, every pilot has its own project leader.

After 1999, the organisation will be roughly the same, but probably the amount of pilots will be larger. We think that a portfolio of five to ten pilots is optimal. We think it will take a period of eight to ten years to create consumer oriented, flexible and responsive chains in the T&R in Brabant.

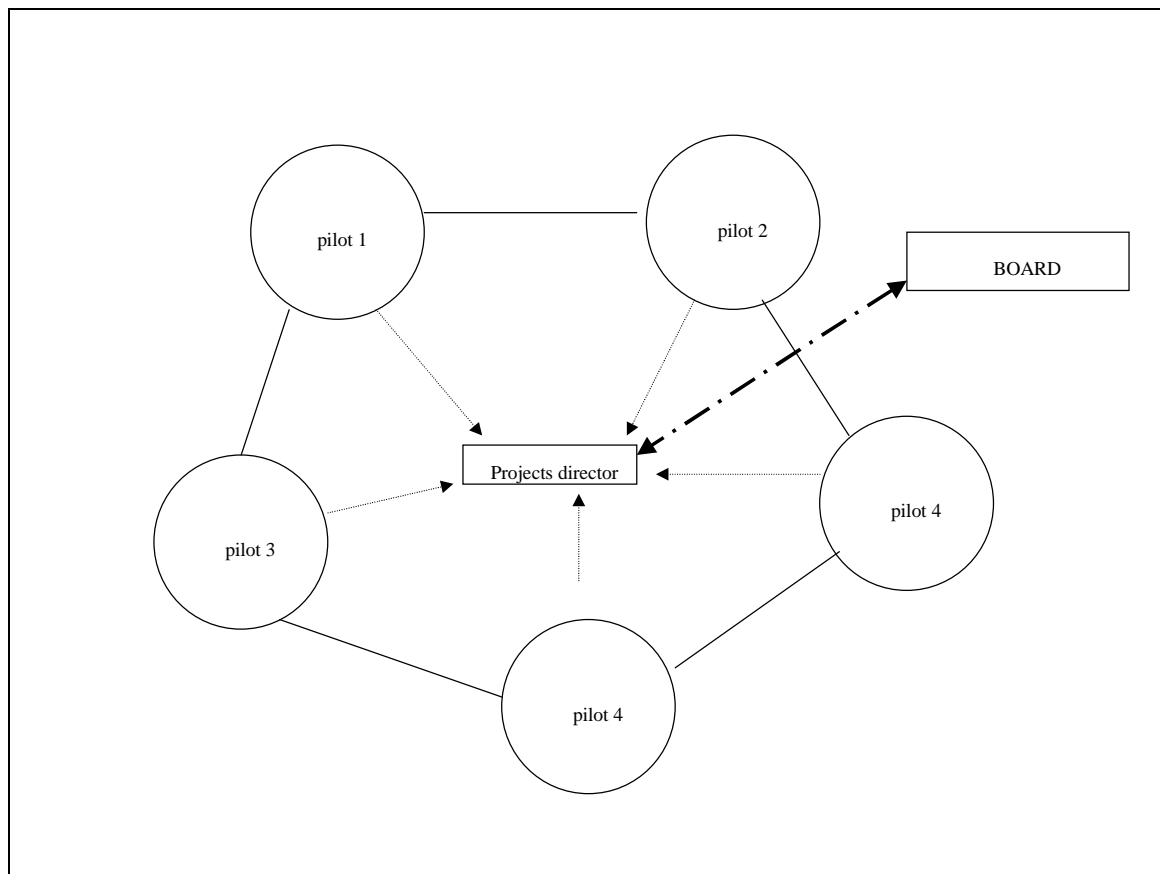


Figure 15.7 Organisation of TREK-Brabant

## 15.5 Conclusions

- All reforms in industrial sectors should be shaped by consumers' demands.
- Trust is an important condition for the realisation of chains in a sector.
- Trust is difficult to realise and it takes a lot of time before it is there.
- A key person (a spider in the web) is very important to create this trust and to make minds ready for change.
- People only change when they have the idea that such a change creates more benefits than costs.
- Experiences of other but comparable sectors can help to evaluate ideas for change.
- Knowledge is an important requisite for adequate reforms.
- A good instrument to bring together the relevant knowledge that is available and to develop knowledge that is missing, is the performance of pilot projects, organised as public private partnerships.
- To create connection and synergy between pilot projects, a 'projects director' should be appointed.
- The proof for all these positions can be found in the projects of the foundation Agri Chain Knowledge (AKK) and in our recreation project in Brabant.





## References

- Kearney, A.T., *De markt gemist? Door beperkte marktgerichtheid dreigt somber perspectief voor Nederlandse Agrosector*. Amsterdam, 1994.
- Ban, A.W. van den, *Boer en landbouwvoorlichting. De communicatie van niece landbouwmethoden*. Assen, 1963.
- Borgstein, M.H. et al., *Ketens en plattelandsontwikkeling. Markt-, keten- en netwerkkennistoegestapt op het landelijk gebied*. Den Haag, Nationale Raad voor Landbouwkundig Onderzoek, 1997.
- Diederien, P., Engelbart, F., et al., *FLAK 2010: Flexibele Agrarische Ketens in de 21e eeuw*. NRLO-rapport 96/25. NRLO/AKK, Den Haag/Rosmalen, 1996.
- Douw, L., 'Meer door minder. Ontwikkelingen in de agrarische structuur na 1950'. In: A. Bauwens, et al. (red.), *Agrarisch bestaan*. Beschouwingen bij vijftig jaar Landbouw-Economisch Instituut, Assen/Maastricht: Van Gorcum, pp. 35-53, 1990.
- Go, F.M., *Toerisme in Transformatie, Ondernemer en Maatschappij tussen Traditie en Innovatie*. Voorschoten, STIRT Fonds Duurzaam, 1997.
- Go, F.M. en R. Govers, *Ondernemen in toerisme. Kennis, kundes en krachten gebundeld*. Stichting Maatschappij en Onderneming, 1997.
- Heuvel, M. van den, *Trends de vrijetijd. Algemene verkenningen en een beschrijving van de ontwikkelingen in Noord-Brabant*. Tilburg, KUB, 1998.
- Hillebrand, H. and S. Reinhard, 'Product quality and the organisation of Dutch agribusiness'. In: *TSL 11* (1996) no. 2, pp. 157-171.
- Kotler, P., *Marketing Management: Analysis, Planning, Implementation, and Control*, Prentice-Hall. New Jersey, 1988.
- Provincie, *Beleidsvisie toerisme en recreatie provincie Noord-Brabant*. Den Bosch, Provincie Noord-Brabant, 1995.
- Rogers, E.M. and F.F. Soemaker, *Communication of Innovations. A cross-cultural approach*. New York/London, 1971.

Stichting Agro Keten Kennis/Nehem Consulting Group, *Bouwen aan Marktgerichte Ketens*. Rosmalen/'s-Hertogenbosch, 1996.

Taskforce TREK-Brabant, *Een bredere weg naar een kansrijke toekomst. Toeristisch-recreatieve ketens Brabant (TREK-Brabant)*. Haalbaarheidsstudie, Rosmalen, 1998.

VROM et al., *Nota Milieu en economie. Op weg naar een duurzame economie, ministeries*. VROM, EZ, LNV en V&W, Den Haag, 1997.

# 16. Living in rural areas: Revealed preferences for rural amenities

*Berien S. Elbersen and Frank van Dam*

## *Abstract*

The empirical data presented in this paper show the main motives of households to move to rural areas with plentiful natural and aesthetic amenities in the national territories of the Netherlands and the UK. In the paper it is confirmed that people, especially urban people, are increasingly interested in living in rural areas with plentiful natural amenities and that there are indeed people that act on these preferences and move into amenity rich places in the Dutch and English countryside. Motivations related to the aesthetic values, the natural amenities and the tranquillity of the environment can be perceived as important luring amenities of the rural environment. These developments fit in the process that is referred to as the 'commodification' of the countryside. It means that the traditional agricultural function of rural areas has become less important and that new activities have been attracted to the countryside. The attraction of new functions to the countryside increased since travel to work distances have become more easy to overcome and telecommunication facilities have increased tremendously in most places. At the same time the values and preferences of people have been changing resulting in a growing interest among people in quality-of-life aspects.

## **16.1 Introduction**

In the last decades the countryside has been confronted with a process in which the agricultural production function of rural areas is shifting into a consumption function. This shift from production function into consumption function is called 'commodification' because the countryside has become an economic 'commodity', for which a demand has evolved. According to Clout (1993) 'the visible features of the countryside and the so-called charm of country life have been increasingly 'commodified' in their various ways by urban consumers, advertisers and environmental experts as desirable places for first homes, retirement living, second homes, recreation, conservation or delineating national parks and areas of special ecological worth'.

Bowler et al. (1992) discuss, that these changes in rural areas are linked to value changes in Western urbanised societies. In the last decades travel to work distances have become easier to overcome and the use of telecommunication facilities has increased. This, in combination with an increase of disposable incomes of several household-groups (Bowler et al., 1992, Pacione, 1984, pp. 144), a growing number of people with more spare-time and the growing concern for the environment, has led to a change in values regarding life-styles. Several researchers have characterised these value changes as 'a growing interest in quality-of-life aspects' which refers to a process in which the preferences of people are less steered by employment considerations and more by aspects

influencing one's mental and physical well-being (see Pacione, 1984, Johnson and Rasker, 1995, Rasker, 1993, Williams and Jobes, 1990). For rural areas, especially those with amenity rich or rich natural environments, this has important consequences. According to Bowler et al. (1992) these value changes become apparent in 'a greater value placed upon quality of the rural environment, outdoor recreation, and living in rural communities'. Johnson and Rasker (1995), Rasker (1993) and North and Smallbone (1993) also point to an increased popularity of amenity rich rural areas as settlement locations for residents and businesses.

*Table 16.1 The significance attached to facilities in the residential environment of potential residents of the new Vinex-residential locations*

| Facilities                     | % of respondents that found it very important |
|--------------------------------|---|
| Proximity to shopping centre   | 59  |
| Proximity to natural area      | 50  |
| Proximity to motorways         | 32  |
| Proximity to big urban centres | 30  |
| Proximity to work              | 26  |

Source: Wassenberg et al., 1994.

In the Netherlands some studies have also indicated that Dutch residential consumers have a preference for living in green surroundings. From a study done by Wassenberg et al. (1994) it became clear that people in the Netherlands find the nearness to nature in their residential environment very important (table 16.1). Also the Dutch National Spatial Planning Agency conducted a survey among a thousand Dutch citizens about the significance they attach to aspects of their residential environment. It turned out that a 'green' neighbourhood and proximity to nature were very much preferred and appreciated.

The increased freedom in choosing a place to live and the new needs of residential consumers do not only have serious consequences for the residential function of rural areas but also urban areas will be confronted with the consequences of these changes. Robinson (1990) already points to several studies that have proven that changes in values and lifestyles of people have acted in favour of rural areas in urban-to-rural migration patterns. If this preference of people perseveres it means that rural areas will attract new residents at an increasing scale and urban areas, especially the less attractive neighbourhoods, will start to loose households.

From several studies on migration, it became clear that urban-to-rural migration has already been taking place in western urbanised countries since the sixties. According to Lewis (1992) in England a clear population de-concentration process was already apparent in the sixties and seventies. People started to leave the busy urban centres and moved out

to the rural and even remoter rural areas situated outside the daily urban systems. In the Netherlands the population de-concentration process started by the end of the sixties but it was confined only to the Western part of the Netherlands around the larger cities. This led to a population de-concentration in the central zone of the Netherlands, the Randstad which manifested itself in a population gain in the rural areas around cities situated just outside the Randstad (Atzema, 1991 and De Bakker,1989). In the beginning of the seventies a clear migration flow to the remote rural areas of the Netherlands started to take place (De Bakker, 1989). This population 'turnaround' is also confirmed by analyses done by Atzema and Bargerman (1986) and Van Dam (1996). Suddenly population loss turns into a population surplus in the remote rural areas. This population de-concentration had a temporary character however since the beginning of the eighties population growth in Dutch rural areas starts to lag behind the national average again (see Atzema and Huigen, 1989, van Dam,1996 and Atzema, 1991).

To characterise the shift in population dynamics between the seventies and the eighties Van Dam (1996) talks about 'the turnaround after the turnaround'. It proves that during the eighties the Dutch peripheral rural areas show a bigger net migration loss than the rural areas in and around the Randstad. It was also noticed when studying these population flows that the urban to rural migration took place in waves which were influenced by societal changing processes, like increase in welfare, while there was also a constant rural to urban population flow. This flow has however been constant and does not change in time. In periods of welfare increase, the urban to rural population flow turned out to be bigger than the rural to urban population flow. Although little research has been done on the rural population development in the 1990s a recent study of Van Dam (1996) proves that the migration loss of the eighties seems to turn into a population gain again for the rural areas in the 1990s. From different sources it becomes clear that this 'turn around' is in line with the increasingly strong preference of (urban) residential consumers to live in a greener residential environment away from the crowded urban areas. Also among planners and urban designers the concept of the 'compact city' is increasingly becoming subject for debate (see Brehemy, 1992, Gordon and Richardson, 1997 and Ewing, 1997). Obviously, there seems to be a growing demand for residential environments with 'rural' intrinsic values. If this preference of residential consumers perseveres it means that the present and future supply of houses (the so-called VINEX-locations <sup>4</sup>) in the Netherlands will no longer fit the demand for houses.

Peace and quiet, space and the presence of green and natural amenities are usually associated with the countryside. In a period in which the urban and rural spaces have become increasingly functionally integrated, the intrinsic values of the countryside are more important factors discriminate rural from urban spaces. According to Hoggart, et al. (1995), 'environmental characteristics remain a powerful and pertinent basis for rural distinctiveness, whether in terms of relations between rural and urban areas, with respect to individual and collective representations of rurality and rural identity, or in the biological resource that non-urban zones represent' (Hoggart, et al., 1995, pp. 253). In Britain, one of the most urbanised countries of the world, the countryside has always been strongly associated with landscape and nature. This one-sided image of the countryside, which has

---

<sup>4</sup> VINEX locations are the greenfield locations as specified in the Fourth Memorandum on Physical Planning.

led to the birth of a 'rural idyll', stems from the early use of the countryside for consumption-driven activities. This also explains that in the Anglo-Saxon literature much more attention has been paid to the influence of rural residential environment on the residential choice process (see e.g. Jones, 1986, Dean et al., 1984 Pacione, 1984, Dean, 1987, Vartianen, 1989, Williams and Jobes, 1990 Halfacree, 1994, Halliday and Coombes, 1995). Many of these researchers emphasise the importance of these idyllised perceptions of the countryside in the residential choice process.

In the Netherlands, however, little research has been done on the importance of specific characteristics of the residential environment in the residential choice process. Van Erkel and Neeffjes (1991) and the Dutch Ministry of VROM (Ministry of Housing, Physical Planning and the Environment) (1997) have pointed to the increasing importance of the residential environment in the selection of a new place of residence. Until now, hardly any information has been collected on the specific characteristics of the residential environment that play an important role in the selection of a new place to live. To determine whether the present residential environments still continue to fulfil the present and future housing demand it is however important to know more about the residential preferences of the residential consumers, especially in relation to the specific intrinsic values of the countryside.

To get this information research has to be done on the revealed residential preferences of residential consumers in the Netherlands. After all, that there is an increased preference for greener residential environments has already become clear in several studies. That people really act upon these preferences by moving to attractive rural areas has however not been researched extensively until now. Therefore, in this paper some empirical research results are presented in which the importance of the characteristics of a rural residential environment in the residential choice process has been determined. To discover whether we can talk about the birth of a 'rural idyll' in the Netherlands, the Dutch empirical data for this paper were compared with similar data collected in a British rural area.

## **16.2 Revealed preferences in relation to rural residential environments**

To determine the involvement of the characteristics of the intrinsic values of rural residential environments in the residential choice process, a survey was conducted among households of three Dutch and one English rural area. All four areas are characterised by a relatively remote rural location and the presence of plentiful attractive natural and scenic amenities. In the spring of 1996 a total number of 782 households were surveyed around the protected natural areas of the Dwingelderveld, the Weerribben and the Lauwersmeer, all situated in the Northern part of the Netherlands. A year later in Northern England, another 256 households in and around the National Park Northumberland were surveyed. Of the total 782 households surveyed in the Netherlands, 388 households could be characterised as recent as they settled in the research areas in the last five years before the survey was done. In Northumberland the recently settled households amounted a total number of 69. By asking these recently settled households several questions about the motivations to choose the present region, village and house and the relative importance of

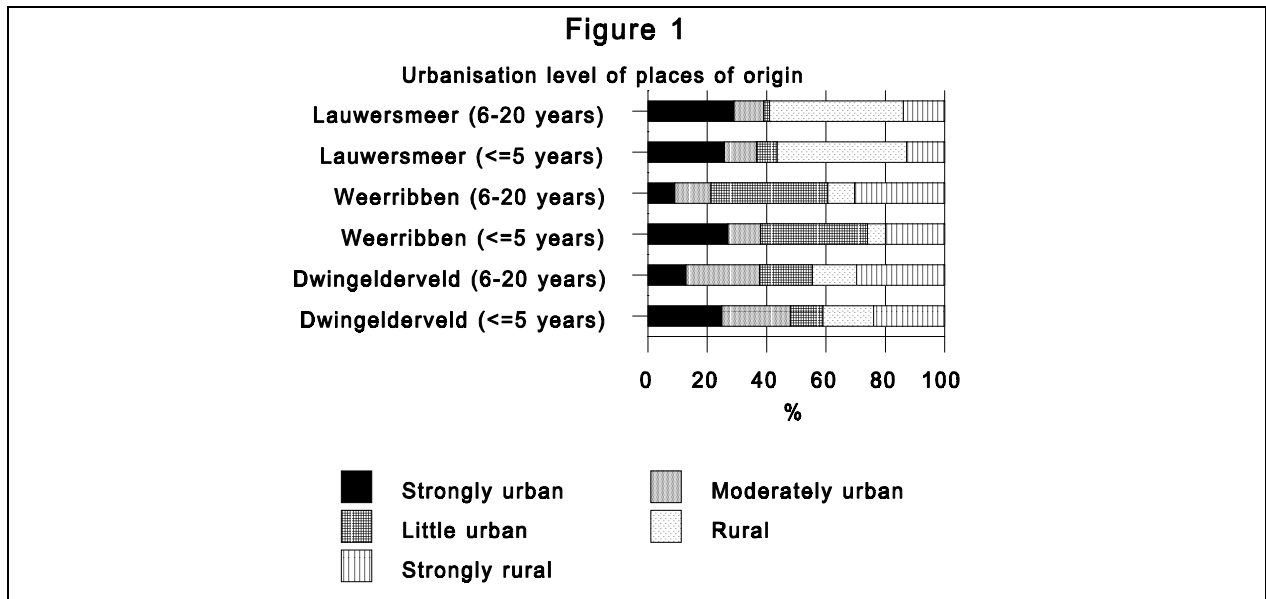
the characteristics of these three in relation to each other, a picture was derived of the revealed residential preferences of residential consumers.

All four case study areas are located in a relatively rural and decentralised location within their national territories. The three Dutch case study areas are all situated in the four most Northern provinces where the population density is relatively low for national standards and there are less big urban centres to be found than in the middle and western part of the country. The English case study areas is situated in the North of England in Northumberland, bordering Scotland on the western side of the National Park. Northumberland is one of the least populated and most rural counties of England. The local landscape in the region where the National Park Dwingelderveld is set, is a historic man made landscape typical for the region of the Southwest of Drenthe ('Esdorpen landschap'). This landscape is characterised by small picturesque villages and old Saxon farmhouses situated in a slightly undulated landscape where Moorland is alternated by woodland, grassland and arable land. The historical and aesthetic value of this small-scale landscape is high and the whole region, not only the area in and around the National Park, is therefore attractive for tourism and retirement migration. The National Park Weerribben consists mainly of peatland which was exploited in the last couple of centuries. For the exploitation of peat, huge areas of peatland were excavated and big lakes evolved. In the Weerribben the landscape is characterised by narrow watercourses connected with each other by swampy land. Although the landscape in and around the Weerribben is completely man made, it is very diverse and it has a high natural and aesthetic quality. In addition, the area also commands of many cultural attributes like old historical villages and towns, estates, crofts and farmhouses. Contrary to the Dwingelderveld and the Weerribben, the area of the Lauwersmeer is a typical example of a newly created natural area with a very recent genesis. In 1969 the Lauwers Sea was definitively separated from the Wadden Sea by a dyke and 7,000 ha of new land and a 2,000 hectare big sweet water lake were created. Now it is an important wetland and habitat for many birds. The area around this newly created land has many cultural attributes like old historical villages and towns. The Northumberland National Park is one of the ten National Parks of England and Wales. It is the most remote National Park in England. Its landscape is characterised by hills and moors and forestry land. Often the area is referred to as 'the land of the far horizon'. The main cultural attribute in this national park is the famous Hadrian's Wall. Now that a brief description is given of the typical characteristics of the four research areas the empirical data of the survey research can be presented.

Many urban centres are increasingly suffering from crime, pollution and noise and are therefore becoming less attractive to live, while rural areas still offer a high quality environment. To determine whether under influence of the deterioration of the urban environment and the changing needs the number of households moving out of urban areas to rural areas is increasing an overview is given of the urbanisation level of the places of origin of the recent settler households in the survey areas. The characteristics of the former places of residence of the recent settlers are compared with the urbanisation level of the places of origin of the people that moved into the research areas in the last 6 to 20 years <sup>5</sup>.

---

<sup>5</sup> A standardisation is applied by allocating the same classification to areas where people moved out of in the last five years and in the last 6 to 20 years. In real, in the period between 1976 and 1995 the urbanisation level of many source areas has changed.



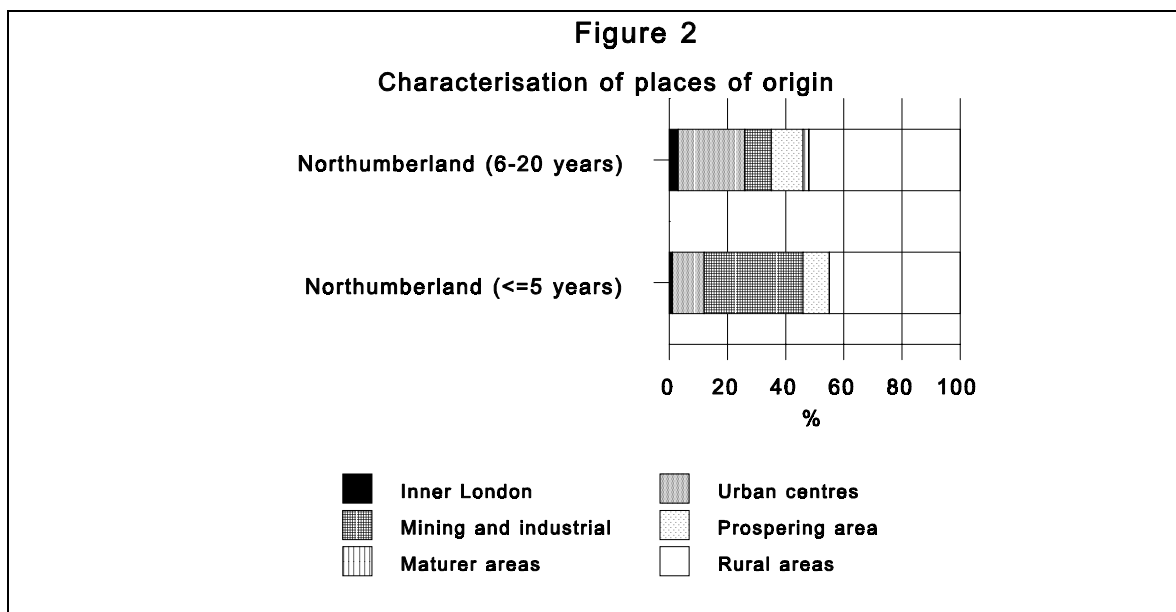
As becomes clear in figure 16.1 <sup>6</sup> the urbanisation level of the former places of residence differs strongly between the three Dutch case-studies. In the last five years, in the Weerribben almost two thirds of the recent settlers came from strongly or moderately urban municipality. In the Dwingelderveld this was more than half and in the Lauwersmeer this was only the case for 45% of the recent settlers. In the Lauwersmeer the type of resource areas with relation to urbanisation level changed little in the last 20 years. In the Weerribben and the Dwingelderveld however, the number of settlers that comes from a strongly urban resource area increased clearly. This supports our assumption that rural areas are becoming increasingly attractive for people that want to exchange their crowded urban environment for a more quiet and green rural environment.

To get an idea of the characteristics of the former places of residence of the inhabitants in the Northumberland case study, the OPCS area classification of England, Scotland and Wales was used. In comparison to the Dutch urbanisation classification system, the OPCS is a much more comprehensive classification system not only focussed on information about urbanisation level <sup>7</sup>. As becomes clear from figure 16.2, the most

<sup>6</sup> To characterize the former places of residence of the settlers in the three Dutch case studies, the urbanisation classification system of the CBS (Central Bureau of Statistics) was used. The CBS relates the urbanisation level to the density of human activities which is expressed by the address density in Dutch municipalities (Den Dulk et al., 1992). Five types of areas are distinguished, the strongly urban ( $\geq 1,500$  addresses/km<sup>2</sup>), moderately urban (1,000-1,500 addresses/km<sup>2</sup>), little urban (500-1,000 addresses/km<sup>2</sup>), rural (250-500 addresses/km<sup>2</sup>) and the strongly rural areas ( $< 250$  addresses/km<sup>2</sup>).

<sup>7</sup> The OPCS classification system is based on a cluster analysis on 37 different variables derived from the 1991 Census Small Area Statistics (SAS). Six different areas have been distinguished: Rural areas, Prosperous areas, Maturer areas, Urban areas, Mining and industrial areas and Inner London. The 37 variables concern demographic structure, household composition, housing situation, socio-economic situation and employment situation. The allocation of the areas has been applied to local authority districts (for more information see Wallace, D. et al., 1995).





important group of areas of origin in Northumberland in the 1991-1995 period are the rural areas and the mining and industrial areas.

In the period 1976-1990 the picture was different. A relatively higher proportion of the settlers came from the rural areas and the urban centres. A much lower percentage of people came out of the mining and industrial areas. This shift towards mining and industrial areas is related to the increasing importance of the Tyne and Wear area as an area of origin of the recently settled households in the Northumberland area. The relative increase in the number of people moving out of mining and industrial areas towards rural areas confirms the assumption made in the beginning of this section. Like Dutch rural areas, also rural areas in Northumberland increasingly seem to attract people from areas suffering from high deprivation figures. This is logical as one realises that under influence of the shutting down of mines and heavy industries in these areas unemployment and crime rates have been growing. Because of this, the quality of the residential environment of these areas has deteriorated.

*Table 16.2 Ranking of the importance of the characteristics of the house and of the residential environment in the residential choice process*

|                       | House most important | residential environment<br>(region/village) most important | no clear preference |
|-----------------------|----------------------|--|---------------------|
| Dwingelderveld (N=84) | 35                   | 51   | 14                  |
| Weerribben (N=124)    | 37                   | 51   | 12                  |
| Lauwersmeer (N=171)   | 59                   | 23   | 18                  |
| Northumberland (N=64) | 8                    | 38   | 54                  |

To determine the relative importance of the characteristics of residential environment in relation to the characteristics of the house, the recent residents were asked to state whether the characteristics of the house or the wider residential environment were most important in their decision to choose their present place of residence. From table 16.2 it becomes clear that the residential environment is very important in the residential choice process both in the Dutch and the English situation. There is however a strong variation in the ranking of the involvement of these different aspects in the residential choice process between the areas. In the most remotely located Dutch case study area, the Lauwersmeer, the characteristics of the house have been more important. In the other two Dutch research areas the characteristics of the residential environment were mentioned more often.

In the English case study area the respondents seemed to have more problems with indicating the relative significance of both aspects which leads to the conclusion that the characteristics of the residential environment and the characteristics of the house play an equally important role in the residential choice process.

Now that the importance of the residential environment in the residential choice process has been confirmed it is interesting to know what specific characteristics of the residential environment and of the new dwelling have been of importance in the residential choice process. In table 16.3 the motivations to choose the region as a new residential area have been divided into twelve main categories and the answers related to the residential environment have been further split-up into 6 sub-categories. To be sure that this question relates only to households moving from outside the local region (the so-called long distance movers), only the answers of households that had moved over a distance of more than 20 kilometres were used in table 16.3. It becomes clear that the rough distribution over the different answer categories in the English situation does not strongly diverge from the one in the Dutch situation. Both in the three Dutch case study areas and the English case study the characteristics of the environment, followed by job related motivations were the main motives to choose the case study regions.

To the first answer category all answers related to job search and job location have been counted. It becomes clear that in all four areas 16% of the motivations given, fell in this answer category. This means that respectively 23, 21, 21 and 29% of the respondents explained their move to the Dwingelderveld, the Weerribben, the Lauwersmeer and the Northumberland case study area with a job related motivation.

As becomes clear from table 16.3, the motivation related to the characteristics of the environment are the biggest answer category in all three Dutch and the UK case studies. Especially in the Weerribben, this category scores very high. To determine the significance of motivations related to the intrinsic value of rural areas, the environmental motivations have been further split-up in six categories. When focussing only on the Dutch situation, it becomes clear that the recent settlers in the Weerribben have involved environmental considerations more often in their residential choice than the settlers in the Dwingelderveld and Lauwersmeer.

Table 16.3 The two most important reasons given to choose the region as a new residential area (% total answers given)

|  | Dwingelderveld<br>(N=63) a) | Weerribben<br>(N=95) b) | Lauwersmeer<br>(N=114) c) | Northumberland<br>(N=92) d) |
|--|-----------------------------|-------------------------|---------------------------|-----------------------------|
| 1) Job related                         | 16                          | 16                      | 16                        | 16                          |
| 2) Characteristics environment         | 43                          | 60                      | 41                        | 46                          |
| a Beautiful/landscape/remote           | 14                          | 9                       | 14                        | 21                          |
| b Tranquillity                         | 11                          | 11                      | 11                        | 12                          |
| c Clean/healthy air/no pollution       | 0                           | 2                       | 2                         | 2                           |
| d Presence nature/wildlife             | 16                          | 20                      | 9                         | 2                           |
| e Presence water/beach                 | 0                           | 12                      | 3                         | 0                           |
| f Rural/countryside                    | 2                           | 6                       | 4                         | 9                           |
| 3) Characteristics house/garden        | 0                           | 1                       | 2                         | 3                           |
| 4) Price of house                      | 3                           | 3                       | 11                        | 4                           |
| 5) Availability house                  | 3                           | 3                       | 4                         | 3                           |
| 6) Back to roots                       | 11                          | 7                       | 12                        | 5                           |
| 7) Knew area already (holidays)        | 3                           | 2                       | 2                         | 4                           |
| 8) Social relations (family/- friends) | 8                           | 3                       | 7                         | 5                           |
| 9) Near services/centrally located     | 5                           | 0                       | 1                         | 0                           |
| 10) Possibility outdoor activities     | 5                           | 2                       | 0                         | 1                           |
| 11) No crime/not crowded               | 0                           | 0                       | 4                         | 8                           |
| 12) Other                              | 3                           | 2                       | 0                         | 3                           |

a) There were 44 recent residents who gave 63 answers; b) There were 72 recent residents who gave 95 answers; c) There were 87 recent residents who gave 114 answers; d) There were 51 recent residents who gave 92 answers.

In all three situation the tranquillity, the general aesthetic characteristics and the remote location are important environmental motivations. It is striking however that in the Dwingelderveld and the Weerribben the presence of nature and wildlife is more often mentioned than in the Lauwersmeer. Obviously, the presence of nature does influence the residential choice process but this seems to dependent on the type of nature present. When looking further at the environmental motivations in the Dutch situation it is also striking that in the Weerribben the presence of water was considered an important environmental motivation. In the Lauwersmeer, where there is also plenty of water present, this category was hardly mentioned.

In Northumberland almost half of the residential choice motivations consisted of environmental considerations. Contrary to the Dutch case study areas, in the English situation the presence of nature and wildlife was not mentioned very often. The aesthetic attractiveness of the landscape and the remote location however, made up the most important part of the environmental motivations. Also the tranquillity and the rural characteristics of the area were mentioned more frequently as reasons to move to the Northumberland area. The higher score on rural and countryside motivations in Northumberland, confirms the existence of a rural idyll in the UK which is clearly stronger than in the Netherlands.

In three of the four case study areas around 10% of the motivations were related to the characteristics, the price or the availability of a house. In the Lauwersmeer this percentage was higher since the motivation of lower housing prices was mentioned significantly more often than in the two other Dutch case study areas. This confirms that lower housing prices are still an important instrument to attract people to certain areas. In the Lauwersmeer area the housing prices are indeed among the lowest of the Netherlands (NVM, 1997).

When looking at the sixth motivation, the back-to-the-roots motivation, it becomes clear that this category is more important in the Netherlands than in the English situation. In the Dwingelderveld the high score on back-to-roots migration is probably stimulated by the local housing policy. In this area, because of the increasing pressure on the local housing market, many municipalities apply a preference-admission policy for people who have lived before in the area. In practice this means that back-to-roots migrators get easier access to the local housing market. In the Lauwersmeer area however, where back-to-root motivated migration is most important, there is no question of this type of policy since there was no need for it. In this part of the north, the local demand for houses has rather been smaller than the supply of houses, than the other way around. This is also confirmed by the relatively low housing prices in this part of the country. In other words, the explanation for the relative over-representation of back-to-roots migrators in this case study can not be sought in institutional reasons. Obviously, there is exists a relatively strong desire among residents of this area to return to their place of birth or the place of their youth. Another explanation, can be that there is a lack of interest among people not familiar with the Lauwersmeer area to live in a relative remote rural region of the Netherlands.

In the Dwingelderveld the near presence of services or the central location were also mentioned relatively often as motivations for choosing the area. This can be explained by the fact that the service level is clearly higher and the distance to bigger urban centres is smaller in the Dwingelderveld in comparison to the other three case study areas. The absence of crime and crowds was mentioned more often in both Northumberland and, although to a lesser extent, in the Lauwersmeer. In Northumberland this is related with the fact that more residents from the Tyne and Wear area are moving to the Northumberland area. Exactly, the Tyne and Wear area suffers from relatively high crime rates in the UK.

The second question asked to the recent residents about their motivations to move to one of the four case study areas is related with the characteristics of the dwelling. They were asked the two main reasons for choosing the present dwelling they were living in. The answers given are divided over 8 motivation categories (table 16.4). Again the distribution over the answer categories between the Dutch and the English case study areas does not diverge very strongly. The most important motivation to choose the house is related to the characteristics of the house itself.

Other motivations often mentioned are the availability of the house, the space around the house, the view from and the price of the house. In Northumberland the selection of the house is more often job related than in the Dutch situation. This has probably to do with the fact that there is still a lot of tied housing in Northumberland, which means that employers supply their workers with housing and/or that housing is tied to the working place. In the Netherlands, especially in the Dwingelderveld and the Weerribben, the

location of the house in relation to surroundings and the space and view around the house were mentioned more often as motivations than in the English situation.

Table 16.4 The two most important reasons given to choose present dwelling (%/total answers given)

|   | Dwingelderveld<br>(N=125) a) | Weerribben<br>(N=181) b) | Lauwersmeer<br>(N=259) c) | Northumberland<br>(N=88) d) |
|---|------------------------------|--------------------------|---------------------------|-----------------------------|
| 1) Job related                                    | 6                            | 6                        | 5                         | 16                          |
| 2) Availability of house                          | 14                           | 12                       | 14                        | 18                          |
| 3) Characteristics house/- garden                 | 32                           | 30                       | 34                        | 32                          |
| 4) Location of house in relation to surroundings: | 16                           | 14                       | 8                         | 7                           |
| - in relation to nature                           | 2                            | 3                        | 1                         | 2                           |
| - in relation to services/-centrally              | 14                           | 11                       | 7                         | 5                           |
| 5) Space/open view/freedom                        | 15                           | 17                       | 17                        | 10                          |
| 6) Price of house                                 | 11                           | 14                       | 16                        | 14                          |
| 7) Built house themselves                         | 5                            | 6                        | 3                         | 2                           |
| 8) Other  | 0                            | 2                        | 3                         | 1                           |

a) There were 84 recent residents who gave 125 answers; b) There were 123 recent residents who gave 181 answers; c) There were 171 recent residents who gave 259 answers; d) There were 67 recent residents who gave 88 answers.

### 16.3 Conclusions

The empirical research data in this paper give an overview of the main motives of households to move to rural areas with plentiful natural and aesthetic amenities in relatively decentralised places of the national territories of the Netherlands and the UK. Several conclusions can be drawn from the empirical data as presented in the former.

Firstly, it became clear that there is an increasing number of households exchanging crowded urban places for a greener rural environment. Both in the Dwingelderveld and the Weerribben the percentage of households that originates from strongly urban places increased clearly in the last 5 years in comparison to the 15 years before. Also in the UK the strong increase in the number of people exchanging Mining and Industrial areas for the Northumberland countryside confirms that the same process is taking place in the UK.

Secondly, the assumption that the residential environment is more important in the residential choice process than the characteristics of the house got further confirmed for the situation in the four case study areas. In the Dwingelderveld, the Weerribben and Northumberland, the majority of the recent settlers said that the characteristics of the residential environment had been either equally or even more important in their residential choice process than the characteristics of the house. In the Lauwersmeer however, the characteristics of the house itself turned out to be more important in the majority of the cases. Obviously, the decisive importance of the residential environment in the residential choice process depends very much on the specific characteristics of that environment.

Thirdly, the results of the survey indicate that the choice of a rural residential environment is very much determined by the typical intrinsic values of the countryside.

Motivations related to the characteristics of the environment were the most important group of motivations to choose to live in one of the four case study areas. Especially, the aesthetic values, the natural amenities and the tranquillity of the environment can be perceived as important luring amenities of the rural environment. The importance of the environmental characteristics in the residential choice process was both confirmed in the Dutch research areas as in the UK research area. A small difference came to the front between the two countries. In the Netherlands there is more value attached to the presence of natural amenities in the residential environment while in the UK there is more appreciation for the typical rural characteristics of the environment. This indeed confirms that the presence of a rural idyll is still a typical feature of the British society. For a matter of fact, the strong Dutch appreciation for natural amenities does not apply to all types of nature. In the Weerribben and the Dwingelderveld the natural amenities were more often mentioned as motives to choose the area than in the Lauwersmeer. This was also the case in Northumberland. Possibly, the appreciation of nature in the residential environment depends on the type of nature present. Furthermore, the perceptions of nature differ between countries.

Fourthly, the survey results indicated that in the Netherlands motivations to select a new place to live are more strongly dominated by the wish to return to a place where people already lived before, than in the UK.

Fifthly, the selection of a new dwelling in a rural area is determined in the first place by the characteristics of the dwelling and garden. Other motivations often mentioned were the simple fact that the houses were available, the space around and the view from the house and the relative low prices of real estate. The two last motivations are related to the specific intrinsic values of the countryside where there is still more space available, the landscape is aesthetically attractive and prices of houses are still lower than in most urban places.

Overall, the results of the survey illustrate that there is indeed an increasing number of urban households that act on their preferences and move to rural areas. The countryside attracts new residential consumers because it is in a better position than most urban areas to supply people with commodities like natural amenities, space, tranquillity, cheaper houses and houses with larger gardens. In this study these conclusions could only be drawn on the basis of survey data derived from people that already made the choice to move to rural areas. This means that from this, a picture could only be derived of the revealed preferences of a specific group of households in relation to rural amenities. Broader research among the whole Dutch and English population should be done to determine the real stated preference in relation to living in a rural residential environment. After all, knowledge on the real size of the stated preference can confirm whether the present housing market can still fulfil the housing wishes of the future Dutch and British residential consumers.

## 16.4 Discussion

The overall conclusion from this paper is that people have a wish to live in residential environments with characteristics that are increasingly more easy to find in rural areas than in urban areas. If this wish exists among a broad layer of the population, the present housing supply will no longer fit the housing demand. The result will be that rural housing markets will be invaded by urban residential consumers. This can have negative effects on both the rural and the urban housing market. The pressure on rural housing prices will increase and a rural housing shortage will arise out of it. Furthermore, increased pressure on the rural housing markets will lead to a process of selective migration in which only the better-off will succeed in getting what they want. At the same time, the urban neighbourhoods, might start to loose households and the value of real estate will go down.

In the former only a short description was given of the main possible effects of changes in the residential preferences of people. This picture is however conceivable in the future and it gives rise to some points of discussion:

- more knowledge is needed about the stated preference towards living in green residential environments. In what way can we derive this knowledge;
- should we allow rural areas to be invaded by urban residential consumers;
- what can we do to prevent an increasing pressure on the rural housing market?

## References

Atzema, O.A.L.C., C.A. Bargerman, 'Regionale bevolkingsgroei en migratie'. In: J. Buursink and E. Wever (eds.), *Regio en ontwikkeling; Aspecten van regionale economische ontwikkelingen in Nederland*. Netherlands Geographical Studies 26, Amsterdam/Utrecht, 1986.

Atzema, O.A.L.C., *Stad in, stad uit. Residentiële suburbanisatie in Nederland in de jaren zeventig en tachtig*. Netherlands Geographical Studies 127, Utrecht, 1991.

Bakker, D.H. De, *Ruraal nederzettingspatroon en beleid: ontwikkelingen in Zuidwest-Friesland*. Netherlands Geographical Studies 85, Utrecht, 1989.

Bowler, I.R., C.R. Bryant and M.D. Nellis (eds.), *Contemporary rural systems in transition (Volume I)*. CAB International, London, 1992.

Breheny, M.J., 'The contradictions of the compact city: a review'. In: M.J. Breheny (ed.), *Sustainable development and urban form*. London: Pion, 1992.

Clout, H., *European experience of rural development. Report for the Rural Development Commission*. Strategy Review: Topic Paper 5, 1993.

Dam, F. van, *The turnaround after the turnaround after the turnaround? The urban-rural migration wave in the Netherlands, 1973-1994*. Paper presented to the IGU-congress, Land, sea and human effort, august 4-10, 1996, The Hague, 1996.

Dean, K.G., B.J.H. Brown, R.W. Perry and D.P. Shaw, 'The conceptualisation of the counterurbanisation'. In: *Area* 16 (1984) pp. 9-14.

Dean, K.G., 'The disaggregation of migration flows: The case of Brittany, 1975-1982'. In: *Regional Studies* 21 (1987) pp. 313-325.

Erkel, F. van and M. Neefjes, 'Stedelijke woonmilieudifferentiatie'. In: R. van Kempen, S. Musterd and W. Ostendorf (eds.), *Maatschappelijke verandering en stedelijke dynamiek pp. 191-207*. Delft: Delftse Universitaire Pers (Volkshuisvesting in Theorie en Praktijk 30), 1991.

Ewing, R., 'Is Los Angeles style sprawl desirable?' In: *Journal of the American Planning Association* 63 (1997) pp.107-126.



Gordon, P. and H.W. Richardson, 'Are compact cities a desirable planning goal'. In: *Journal of the American planning Association* 63 (1997) pp.95-106.

Halfacree, K.A., 'The importance of 'the rural' in the constitution of counterurbanisation'. In: *Sociologia Ruralis* 34 (1994) pp. 164-189.

Halliday, J. and M. Coombes, 'In search of counterurbanisation: some evidence from Devon on the relationship between patterns of migration and motivation'. In: *Journal of rural studies* 11 (1995) pp.433-446.

Hoggart, K., H. Buller and R. Black, *Rural Europe. Identity and change*. Arnold, London, 1995.

Jones, H., et al., 'Peripheral counter-urbanisation: Findings from an integration of census and survey data in Northern Scotland'. In: *Regional Studies* vol. 20 (1986) 1, pp. 15-22.

Johnson, J.D. and R. Rasker, 'The role of economic and quality of life values in rural business location'. In: *Journal of Rural Studies* vol. 11 (1995) 4, pp. 405-416.

Marsden, T., P. Lowe and S. Whatmore (eds.), *Rural restructuring. Global processes and their responses*. David Fulton Publishers, London, 1990.

Ministry of Housing, Physical Planning and Environment, *Woonverkenningen MMXXX, Wonen in 2030*. The Hague: Ministry of Housing, Physical Planning and Environment, DGVH, 1997.

North, D. and D. Smallbone, *Small business in rural areas, Report for the Rural Development Commission*. Strategy Review: Topic Paper 2, Centre for Enterprise and Economic Development Research, 1993.

Pacione, M., *Rural Geography*. Harper and Row Publishers, London, 1984.

Rasker, R., 'Rural development, conservation and the public policy in the Greater Yellowstone Ecosystem'. In: *Society and Natural Resources* vol. 6 (1993) pp. 109-126.

Robinson, G. M., *Conflict and change in the countryside*. Belhaven Press, 1990.

Vartiainen, P., 'Counterurbanisation. A challenge for socio-theoretical geography'. In: *Journal of Rural Studies* 5 (1989) pp. 217-235.

Wassenberg, F.A.G., H.M. Kruythoff, T.A.L. Leliveld and J.E.H. van der Heijde, *Woonwensen en realisatie van VINEX-locaties in de Randstad*. Delft: Onderzoeksbureau OTB, 1994.

Williams, A.S. and P.C. Jobes, 'Economic and quality-of-life considerations in urban-rural migration'. In: *Journal of Rural Studies* vol. 6 (1995) 2, pp. 187-194.

# 17. Rural land use changes and the image of the countryside: a Dutch rural idyll?

*T. Haartsen, P.D. Grootte and P.P.P. Huigen*

## *Abstract*

In the last decades, the rural areas of the Netherlands have changed enormously. This is demonstrated by the decline of land used for agricultural production in favour of non-agricultural functions as recreation, nature and residence. This paper visualises both the general pattern and a more detailed long-term analysis of the character and pace of the functional changes in land use since 1950. The increasing multi-functionality of rural areas gave rise to a range of contested images of the countryside. Through an explorative analysis of dominant rural representations in the Netherlands, we examined the different dimensions and elements in the imagination of rural areas. In order to detect group-specific differences in the construction of rural images, a division was made for residential history and age.

## **17.1 Introduction**

In European terms, the Netherlands can be characterised as a densely populated and urbanised area, with hardly any rural areas left. This is demonstrated by the OECD (1994) classification of rural space into three categories, based on the share of a regions' population that lives in communities with less than 150 persons per square kilometre. The resulting categories are predominantly rural (more than 50% living in rural communities), significantly rural (15-50%) and predominantly urban (less than 10%). Following this population criterion, about 65% of the Netherlands falls within the predominantly urban category, and there are no predominantly rural areas at all (Pierce, 1998).

Also within the Netherlands, rural space is subject of debate. The country is thought to be crowded and full and spatial functions are strongly competing for the scarce space. The countryside is often suggested as an alternative location for space consuming functions, such as infrastructure and residential living. But are there enough rural areas in the Netherlands to locate these functions or are there no rural areas left at all, as the OECD criterion indicates? This paper tries to answer this question by using land use instead of population as a criterion (section 2). Changes and regional differences in land use since 1950 are also examined to find out whether the countryside is changing as much as we think. In this context, another interesting topic is if there is any rural space left in the minds of the people. Which images of and attitudes towards the countryside do people hold? Are these ideas based on the actual situation, or an idyllic and romanticised glorification of reality? In the third section of this paper, the prevailing rural images are explored and unravelled using the first results of a pilot survey concerning this subject. The relationship between age and rural imagination and the influence of residential history on this process are also examined in this section.

## 17.2 Land use changes in the Netherlands from 1950 to 1993

In order to find out whether there are any rural areas left in the Netherlands, the changes in land use are analysed by using data of the land use statistics of the Dutch Statistical Office (CBS). First, the differences in land use between 1950 and 1993 are examined at the national level. After describing this national context, a further examination is executed to discover regional differentiation in land use developments in the Netherlands.

### 17.2.1 Land use changes at the national scale

The original 30 land use categories of the Bureau of Statistics are reduced to six more general forms of land use, namely 'cultivated land', 'nature', 'infrastructure', 'built environment', 'recreation' and 'other'. Because the meaning of the original category water altered considerably during the period, it was excluded from the analysis.

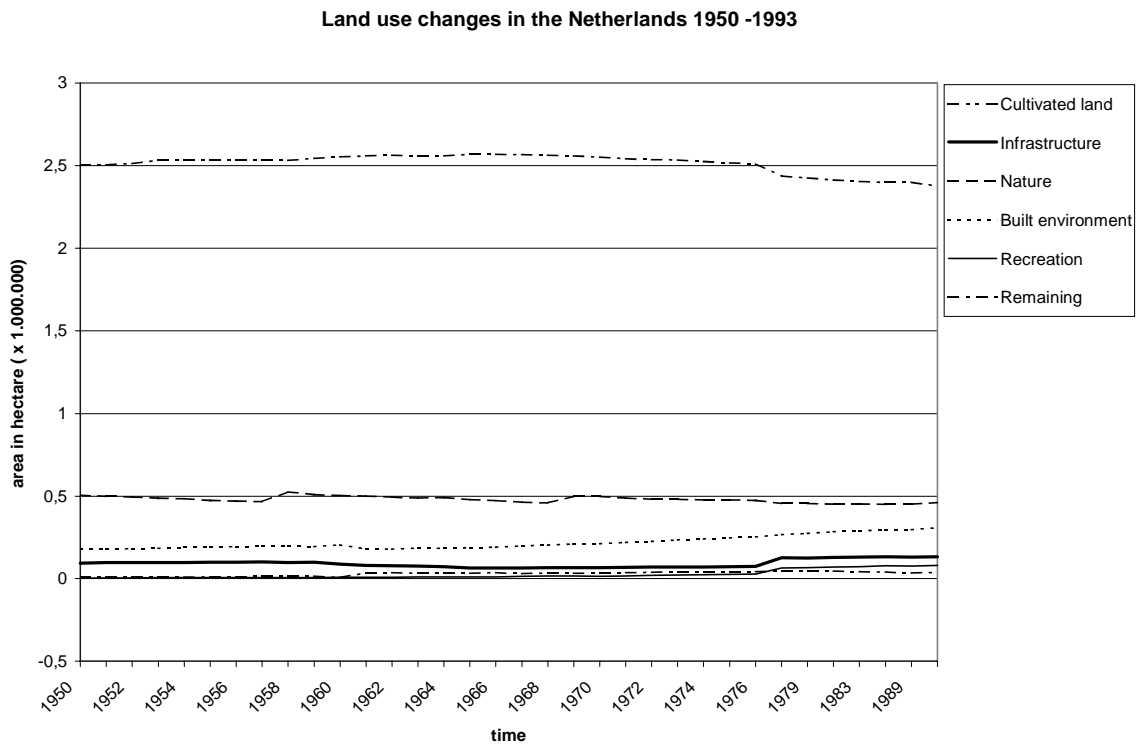


Figure 17.1 Land use changes in the Netherlands 1950-1993, in hectares  
Source: CBS, land use statistics 1950-1993.

As figure 17.1 shows, the transformations in land use have taken place very gradually. The most considerable tendency is the slowly declining area of cultivated land, in favour of built environment. The more or less abrupt changes in the lines are caused by

changes in the classification and in the method of data accumulation of CBS. In the years 1976-1977, the most important change in classification was carried through.

*Table 17.1 Land use figures in 1950 and 1993 in percentages of the total area of the Netherlands (water excluded)*

| Land use category | 1950 | 1993 |
|-------------------|------|------|
| Cultivated land   | 76.0 | 70.0 |
| Nature            | 15.4 | 13.4 |
| Infrastructure    | 2.9  | 3.9  |
| Built environment | 5.4  | 9.2  |
| Recreation        | 0.1  | 2.4  |
| Other             | 0.2  | 1.1  |
| Total area        | 100  | 100  |

Source: CBS, land use statistics 1950 and 1993.

The relative figures of table 17.1 affirm the trend of an increasing share of built environment at the expense of cultivated land, with a gain respectively loss of 3.8 and -6.0%. Table 17.1 also shows a reduction of the proportion of nature in the land use of the Netherlands.

Although cultivated land still is the most dominating land use category and its share in the total area is only slowly retreating in favour of built areas, people experience this change as very radical. Apparently, the actual changes in land use are not corresponding with the general feelings of the disappearance of rural areas. Mingay (1989) relates this phenomenon to the 'urbanisation of the mind'.

He argues that, although urban land use has only taken over a small part of the countryside, there has been a much more complete spread of urban attitudes and values into the countryside. Beside the urbanisation of the mind, it is also possible that the measuring of the changes in rural areas by land use changes in hectares only is not sufficient. An increase of built environment or infrastructure with 5 ha can be experienced as a relative larger change than an increase of agricultural land with the same amount. Moreover, the dispersion of buildings and infrastructure, leading to more fragmentation in land use, can also contribute to the perception of change, whereas this can hardly be measured in figures of land use change.

### 17.2.2 Regional land use differences

For the examination of regional differentiation in the changes in land use, the so-called COROP areas were used. This statistical subdivision of the Netherlands consists of 40 areas. In the COROP classification, the Waddensea islands are categorised within COROP areas in North-Holland and Friesland. Because the land use patterns of these islands differ considerably from those at the mainland, we isolated them and combined them into a

separated area. The newly reclaimed polderlands of the province of Flevoland, which only came into use during the period of research, are excluded from this analysis.

#### 17.2.2.1 Situation in 1950

With the help of a cluster analysis it is possible to distinguish different regional patterns in land use. The hierarchical cluster analysis with the Ward's criterion of distance results in a clustering of the 40 COROP areas into three clusters, containing respectively 25, 12 and 3 COROP areas (see figure 17.2 and table 17.2).

The figures of table 17.2 are used to define a typology of the three clusters. A one-way ANOVA test provides an indication of the contribution of each land use category to the clustering process. Only the land use categories nature and cultivated land differ significantly ( $p < 0.01$ ) within and between the clusters, and therefore these two classes form the main determinants in the typology.

The first cluster can be characterised as 'agricultural'. With about 83%, the mean share of cultivated land in the COROP areas of this cluster is considerably higher than the total mean. On the contrary, the share of nature is relatively low. The COROP areas of cluster 2 have a considerably less but still dominating proportion of cultivated land, whereas the share of nature rises above the overall mean of all COROP areas. Consequently, this cluster is typified as 'agricultural green'. In the last cluster, named 'nature-agriculture', nature forms the most important land use category.

Table 17.2 Average share of land use per COROP area for each cluster in 1950

| Land use           | Cultivated land | Nature | Infrastructure | Built environment | Recreation | Other | COROP areas |
|--------------------|-----------------|--------|----------------|-------------------|------------|-------|-------------|
| Cluster            | %               | %      | %              | %                 | %          | %     | number      |
| Agriculture        | 82.8            | 8.4    | 2.5            | 6.0               | 0.1        | 0.3   | 25          |
| Agriculture-green  | 64.9            | 23.3   | 3.3            | 8.1               | 0.4        | 0.1   | 12          |
| Nature-agriculture | 39.6            | 47.4   | 2.6            | 9.8               | 0.5        | 0.1   | 3           |
| Overall average    | 74.2            | 15.8   | 2.7            | 6.9               | 0.2        | 0.2   | 40          |

Source: CBS, Land use statistics 1950.

The regional differentiation in 1950, as figure 17.2 illustrates, divides the country in a 'green' middle and southern part and more agricultural areas in the north, in Zeeland and in the western provinces.

#### 17.2.2.2 Change between 1950 and 1993

To get an indication of the regional differences in land use changes in the Netherlands during the period 1950-1993, the mean annual growth figures of each COROP area were processed into a new cluster analysis. This resulted in three clusters with 22, 14 and 4

COROP-areas. All land use categories contributed significantly ( $p < 0.05$ ) to the clustering process with cultivated area and built environment as the main determinants.

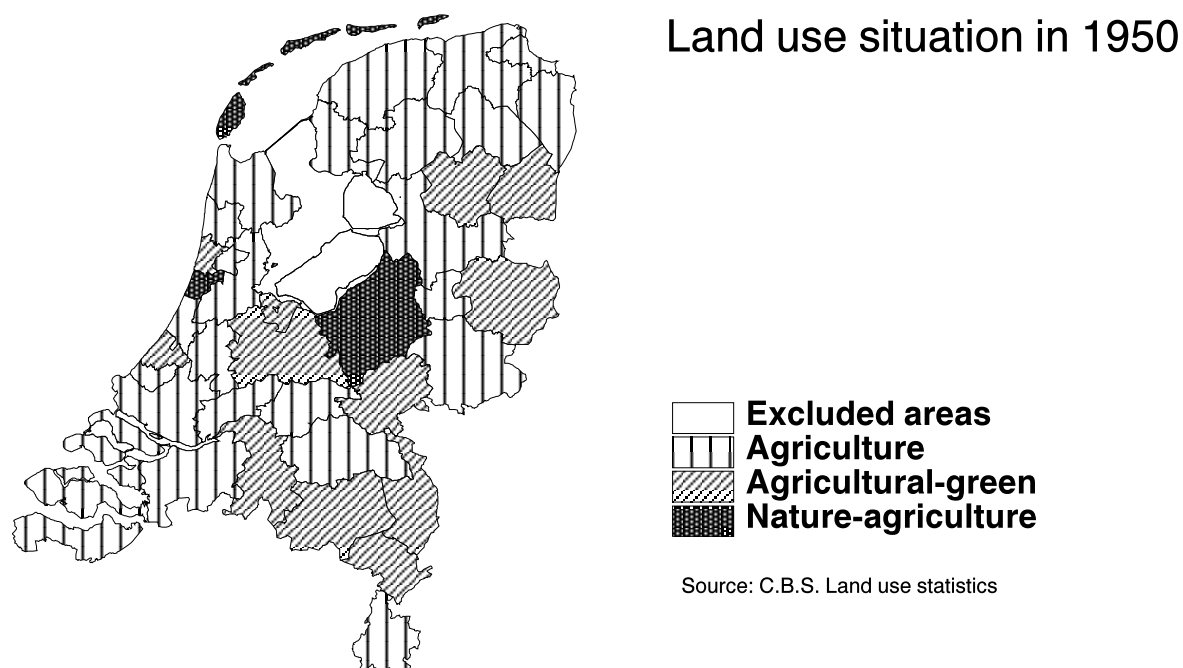


Figure 17.2 Clustered COROP areas in 1950

The first cluster can be characterised with the term 'slow'. The pattern of change in this cluster follows the trend of a decline in cultivated land and an increase built environment, infrastructure and recreation, but all at below-average pace. Cluster 2 shows an above average decline of cultivated land whereas nature is only slowly decreasing. Both the annual growths of infrastructure and built environment are slightly above the general national trend. In general, the areas in this cluster follow the average national trend, and the cluster is therefore labelled as 'average'.

Table 17.3 Average annual growth rates for the period 1950-1993

| Land use        | Cultivated land | Nature | Infrastructure | Built environment | Recreation | Other | COROP areas |
|-----------------|-----------------|--------|----------------|-------------------|------------|-------|-------------|
| Cluster         | %               | %      | %              | %                 | %          | %     | number      |
| 1. Slow         | -0.06           | -0.08  | 0.02           | 0.06              | 0.04       | 0.01  | 22          |
| 2. Average      | -0.29           | -0.01  | 0.04           | 0.13              | 0.07       | 0.03  | 14          |
| 3. Fast         | -0.57           | -0.06  | 0.05           | 0.28              | 0.15       | 0.06  | 4           |
| Overall average | -0.19           | -0.05  | 0.03           | 0.10              | 0.06       | 0.03  | 40          |

Source: CBS, Land use statistics 1950-1993.

The relatively large average annual decline of cultivated land in the third cluster is accompanied by a large rate of growth of the category built environment. This 'fast' cluster contains the areas that have become most urbanised since 1950. The regional division of the clusters throughout the Netherlands is found in figure 17.3.

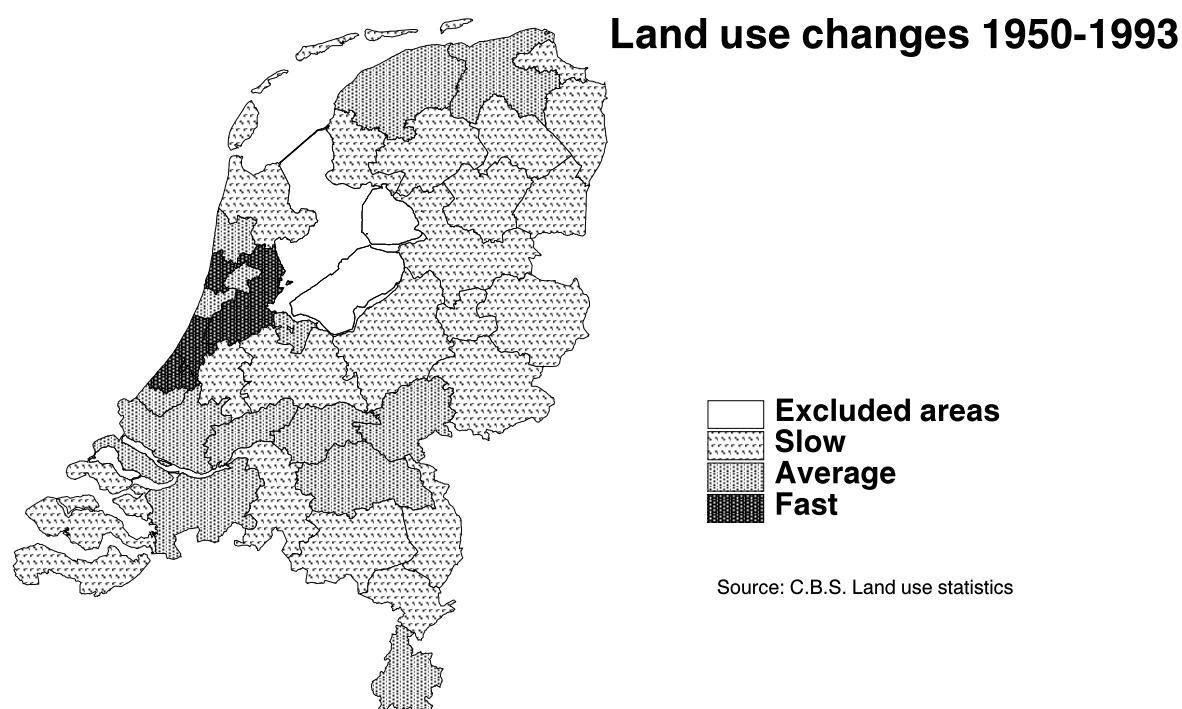


Figure 17.3 Regional difference in change between 1950 and 1993

As described above, the general pattern of the changes in land use is unambiguous; a decline of cultivated land in favour of built environment. The main cause for regional differentiation is the pace of change. The 'fast' COROP areas are, as expected, located in the more urbanised western part of the Netherlands. Although one might expect them to be spatially surrounded by the 'average' areas, this is only partly true. The COROP regions of Utrecht and Delft/Westland are classified as 'slow' instead of the expected 'average', whereas in the north of Groningen and Friesland and the southern part of Limburg some COROP areas are 'faster' than the neighbouring areas. This might be a result from the COROP subdivision: the relatively large COROP region Utrecht contains both the city of Utrecht and its suburbs, as the more agricultural surroundings. In the north the cities of Groningen and Leeuwarden form part of the relatively fast changing COROP's. The areas with a 'slow' pace of change are mostly found where they were expected: in the more agricultural parts of the country.



### 17.2.2.3 Situation in 1993

The land use changes of the previous paragraph lead to the resulting regional differentiation in 1993, which is again illustrated by three clusters (table 17.4). All land use categories contribute significantly to the clustering process ( $p < 0.05$ ). The main components of the analysis are the categories cultivated land, nature, recreation and built environment.

Again, one of the three clusters can be labelled as 'agricultural'. Although the mean share of cultivated land in the COROP areas in this cluster has declined with about 4% compared to 1950, the cluster is still dominated by agricultural land use. All other categories, including built environment, lag behind the overall average. The geographical locations of the areas in this cluster correspond more or less with the 'slow' areas of paragraph 17.2.2.2, as figure 17.4 illustrates.

Table 17.4 Average share of land use per COROP area for every cluster in 1993

| Land use                 | Cultivated land | Nature | Infrastructure | Built environment | Recreation | Other | COROP areas |
|--------------------------|-----------------|--------|----------------|-------------------|------------|-------|-------------|
| Cluster                  | %               | %      | %              | %                 | %          | %     | number      |
| 1. Agriculture           | 78.7            | 7.8    | 3.7            | 7.1               | 1.8        | 0.9   | 22          |
| 2. Urbanised green       | 32.7            | 35.2   | 4.1            | 19.9              | 6.0        | 2.1   | 6           |
| 3. Urbanised agriculture | 61.1            | 13.4   | 4.7            | 15.5              | 3.7        | 1.5   | 12          |
| Overall average          | 66.5            | 13.6   | 4.1            | 11.6              | 3.0        | 1.3   | 40          |

Source: CBS, Land use statistics 1993.

Because of the relatively high average share of built environment, the other two clusters received the label 'urbanised', with a differentiation to 'urbanised green' and 'urbanised agriculture'. Cluster 2 has the largest share of built environment and nature, and, probably because of that, also the largest share of recreation. The COROP-areas of the third cluster distinguish themselves only from the overall COROP-mean for the categories cultivated land and built environment.

The regional differentiation in land use pattern the Netherlands in 1993 shows a more or less diagonal axis with urbanised areas from the west to the Southeast.

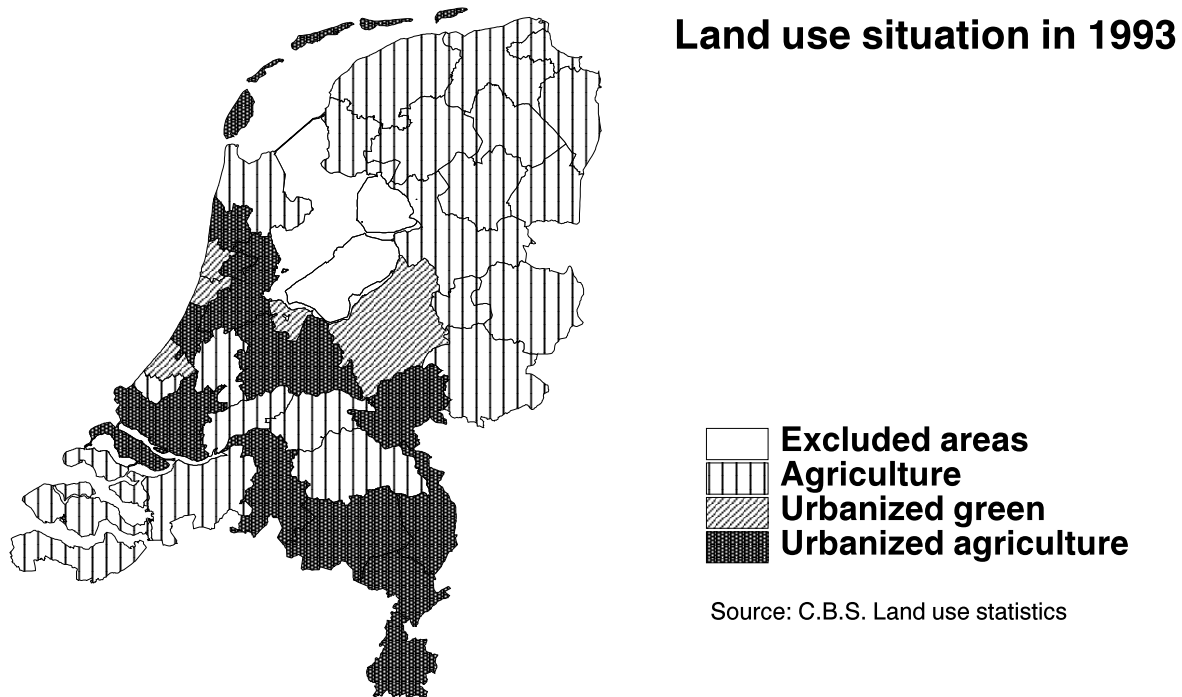


Figure 17.4 Clustered COROP areas in 1993

### 17.2.3 Conclusion

The main trend in changes in land use is a slow decline of cultivated land and nature in favour of built environment. Despite the small transformations, 70% of the country is still in use as cultivated land. The pace of these changes is the main cause of regional differentiation in land use changes. Over time, regional differentiation has become more pronounced, as the difference between the end values of the coefficients in the cluster analysis indicates (the end proximity value increased from 15,209 in 1950 to 19,716 in 1993).

Based on the land use criterion, the question whether the Netherlands still has rural areas has to be answered affirmative. Both in 1950 and in 1993 an 'agricultural' cluster was classified, consisting of COROP-areas with a mean share of cultivated land of more than 75%. Knowing that, it is interesting to find out how people perceive land use changes and whether the rural still exists in the minds of the people.

## 17.3 Rural images

In understanding rural development and in the making of rural policy it is important to know which images of and attitudes towards rural areas people may have. Since rurality is considered a set of constructions or images (Halfacree, 1995), not one but several rural images may exist among different (groups of) actors. An example of a rural image is the so-called rural idyll, a nostalgic and romantic representation of rural life.

This section explores the rural images existing among people in the Netherlands. Which aspects of the countryside play a role in the formation of these images? Do the images change with age or place of residence? To answer these questions, a pilot survey was carried out among students of the University of Groningen. Both first-year geography students and members of courses of the Higher Education for Senior People (HOVO) were questioned. The questionnaire mainly contains open questions, in order to obtain answers which are as spontaneous as possible. This open character of the questionnaire resulted in a very small amount of missing values.

### 17.3.1 Rural images: a first impression

#### 17.3.1.1 Dimensions of rural images

In the explorative questionnaire, the respondents were asked to give their first associations with the words 'countryside' and 'rural areas'. This resulted in a large number of different words, of which the following 10 had the highest score: farms, quietness, space, cows, nature, farmers, pastures, green, villages, and grass.

Referring to the dimensions of the countryside specified by Huigen (1998), three dimensions of rural images were constructed. The first is related to the so-called image recording material, those aspects of the countryside that form the base of the image. Rural representations can be formed along several images bases, being the socio-economic function of rural areas, visual and morphological aspects of rural areas, the sociocultural base, including norms and values, the position of the rural areas in a larger spatial or socio-economic context, and finally the extensive, spatial aspect.

The second dimension of rural images is based on land use. Although rural areas are traditionally related to agriculture, it is interesting to explore whether the land use changes discussed in part 2 are reflected in the prevailing rural images. Therefore, the land use dimension corresponds with the distinguished land use categories agriculture, nature, built environment, recreation, and infrastructure.

The valuation of the rural forms the third dimension in rural images, which leads to the following possibilities: positive, negative or neutral. All associations with the words 'rural area' and 'countryside', as reported by the respondents, were assigned to the three dimensions, resulting in an overall picture of the most important imaginative aspects of rural areas (table 17.5). Some associations fit in all dimensions, e.g. 'cows' is morphological, agricultural and neutral, while others can only be classified in two of the three dimensions, e.g. 'quietness' is sociocultural and positive, but has no land use relation.

Table 17.5 Associations with 'countryside' and 'rural area' per dimension

| Dimension 1: Image base<br>N = 439 |      | Dimension 2: Land use<br>N = 276 |      | Dimension 3: Value<br>N = 441 |      |
|------------------------------------|------|----------------------------------|------|-------------------------------|------|
| Functional                         | 16%  | Agricultural                     | 69%  | Positive                      | 20%  |
| Morphological                      | 39%  | Nature                           | 20%  | Negative                      | 4%   |
| Sociocultural                      | 29%  | Infrastructure                   | 2%   | Neutral                       | 76%  |
| Position                           | 3%   | Built environment                | 8%   |                               |      |
| Extensive                          | 14%  | Recreation                       | 1%   |                               |      |
| Total                              | 100% |                                  | 100% | Total                         | 100% |

In the first dimension, the morphological aspects of rural areas forms, with 39%, the most important image base. Visual aspects of rural images such as cows, farms, pastures, green and villages appear to have a high imaginative power. The sociocultural base also contributes considerably to the rural imagination. Especially farmers and farmer's wives, and associations related to (pleasant) atmosphere and quietness dominate this part of the first dimension. Functional and extensive aspects of the rural image base are less important, where the position of rural areas in society as a whole hardly plays a role in rural imagination.

Considering the second dimension, it must be stated that 38% of the associations are not related to land use at all. Within the land use related reactions, agriculture is with 69% the dominating category. The share of nature in the rural imagination is considerable. It is remarkable that rural images are hardly related to recreation, infrastructure and buildings, especially since in both political and scientific discourse these 'consumption' values of the countryside are considered to become more important (Ministerie van LNV, 1997; Dietvorst, 1997). Rural images of the respondents are more based on the countryside in its traditional sense. Huigen and Strijker (1998) also noted this lagging behind of rural imaging with actual developments in rural areas.

Many associations cannot be easily and unequivocally classified as positive or negative. Therefore, the categorisation of the third dimension is related to two other questions of the survey, where the respondents are asked for their own positive and negative associations with rural areas. For every respondent, the general associations with rural are compared to these positive and negative aspects. When the same respondent also mentions a certain general association as a positive aspect, it is considered to be a positive part of his or her general image. This way, a general association can be positive, negative or neutral for different respondents, depending on it being mentioned as a positive or negative aspect. Table 17.5 shows that 76% of the associations have no specific valuation, where those reactions that are valued are mostly positive. This tendency is also noticed by Willits et al. (1990) in their survey of popular images of rurality in Pennsylvania. The people in their sample were more likely to see the different aspects of rurality in positive terms while rejecting negative images of rural areas.

In summary, rural representations are mainly formed along morphological and social image bases. The images hold a strong agricultural relation and are slightly positive.

### 17.3.1.2 Generation differences in rural imagination

The images of 17.3.1.1 were further processed to explore generation differences in rural imaging. Based on the fact that most seniors have consciously witnessed the famine winter during the Second World War, it can for instance be expected that their images of rural areas are more often related to agricultural production than those of younger people.

The image base dimension (see table 17.6) displays a statistical significant difference between students and seniors ( $p < 0.00$ ). The morphological and sociocultural aspects demonstrate the most striking distinction, where for students morphological aspects of rural areas are important in rural imagination, seniors base their rural images for a substantial part on sociocultural aspects. This can be explained by the fact that modern Western society has become more and more visualised. The whole world is accessible by television images and special events are memorised mainly with photographic representations (Dietvorst, 1997). Especially younger people are used to think in images instead of words.

The second dimension also shows a significant difference ( $p < 0.00$ ) between students and seniors, although the relation is less strong than that of the first dimension (Cramer's V of 0.29 compared to 0.33). Seniors have more varied land use associations than students, who mainly associate rural areas with an agricultural function. The not land use related associations display a striking division as well, 26% of all associations of the students have no land use dimension and 55% of the associations of the seniors.

Table 17.6 Generation differences in associations with 'countryside' and 'rural area'

| Dimension 1: Image base | Students<br>N = 268 | Seniors<br>N = 171 |
|-------------------------|---------------------|--------------------|
| Functional              | 19%                 | 12%                |
| Morphological           | 48%                 | 25%                |
| Sociocultural           | 18%                 | 46%                |
| Position                | 3%                  | 2%                 |
| Extensive               | 12%                 | 16%                |
| Total a)                | 100%                | 100%               |
| Dimension 2: Land use   | Students<br>N = 201 | Seniors<br>N = 75  |
| Agricultural            | 76%                 | 51%                |
| Nature                  | 14%                 | 36%                |
| Infrastructure          | 1%                  | 4%                 |
| Built environment       | 8%                  | 7%                 |
| Recreation              | 0%                  | 3%                 |
| Total b)                | 100%                | 100%               |
| Dimension 3: Value      | Students<br>N = 269 | Seniors<br>N = 172 |
| Positive                | 14%                 | 28%                |
| Negative                | 6%                  | 2%                 |
| Neutral                 | 80%                 | 70%                |
| Total c)                | 100%                | 100%               |

a) Chi-square = 47.85, p-value = 0.00 (d.f. 4), Cramer's V = 0.33;

b) Chi-square = 23.77, p-value = 0.00 (d.f. 4), Cramer's V = 0.29;

c) Chi-square = 13.56, p-value = 0.00 (d.f. 2), Cramer's V = 0.18.

Although the value dimension only exposes a statistical significant weak generation difference, the general rural images of seniors are more positive than those of the students.

Based on these findings, the assumption that the rural images of senior people are more strongly related to agricultural production than those of younger people can be rejected. On the contrary, students do not only associate rural areas more often with agriculture, they even have more land use associations overall.

### 17.3.1.3 Images and residential history

As Hoggart et al. (1995) suggest, a disparity in concepts of rurality can be expected between those who live in cities and countryside inhabitants. It can for instance be presumed that people with a rural background associate rural areas more with agriculture

than people from the city, simply because rural inhabitants experience agriculture related activities on a daily basis. Another assumption is that urban inhabitants have a more visually based image of the countryside, where rural people think more functionally. Considering the valuation of rural areas, it can be expected that rural people have a relatively positive image of the countryside.

In order to explore the relationship between residential history and rural images, we analysed the residential situation in the first 18 years of the respondents' lives. This residential background is subdivided into rural, rural-urban or urban. The rural-urban group consists of respondents that either have lived their youth in suburban areas or moved once or more times and as a result experienced both urban and rural environments. Table 17.7 shows a statistically significant ( $p < 0.00$ ) relationship between residential background and associations with rural, for all dimensions of rural imaging. The high Cramer's V scores indicate that these relationships are fairly strong.

Regarding the first dimension, the opposite of what was expected occurred. Respondents with a rural background do not have relatively more functional associations than their urban counterparts, and an urban background does not result in a more morphological, visual imaging. The most deviating associations come from the intermediate group with a rural-urban background. They have a relatively functionally based image, while sociocultural aspects are less important. Rural-urban respondents have a comparatively positional based impression of the countryside, possibly because they are the most aware of the differences between urban and rural areas.

The most remarkable result in the second dimension is the fact that respondents with a rural background have relatively fewer associations with agricultural land use and more with nature. This might be a result of the rural lifestyle, which brings a stronger awareness of the seasons bringing people closer to nature. An interesting question considering the recent discussions about nature development is whether (new) nature management is to be executed by nature organisations or by farmers. The land use category recreation is not often associated with rural areas, especially by rural respondents.

The third dimension shows that respondents with a rural background are indeed more positive about the countryside than those who grew up in urban areas. This corresponds with the results of Willits et al. (1990) in Pennsylvania.

Table 17.7 Residential background and associations with rural

| Dimension 1: Image base<br>(N = 439) | Rural | Rural-urban | Urban | Total |
|--------------------------------------|-------|-------------|-------|-------|
| Functional                           | 14%   | 18%         | 15%   | 16%   |
| Morphological                        | 40%   | 40%         | 37%   | 39%   |
| Sociocultural                        | 30%   | 24%         | 34%   | 29%   |
| Position                             | 1%    | 4%          | 2%    | 3%    |
| Extensive                            | 15%   | 14%         | 13%   | 14%   |
| Total a)                             | 100%  | 100%        | 100%  | 100%  |
| Dimension 2: Land use<br>(N = 276)   |       |             |       |       |
| Agricultural                         | 65%   | 71%         | 71%   | 69%   |
| Nature                               | 27%   | 18%         | 16%   | 20%   |
| Built environment                    | 7%    | 9%          | 8%    | 8%    |
| Recreation                           | 0%    | 1%          | 3%    | 1%    |
| Infrastructure                       | 1%    | 2%          | 3%    | 2%    |
| Total b)                             | 100%  | 100%        | 100%  | 100%  |
| Dimension 3: Image base<br>(N = 441) |       |             |       |       |
| Positive                             | 27%   | 17%         | 19%   | 20%   |
| Negative                             | 3%    | 5%          | 4%    | 4%    |
| Neutral                              | 70%   | 78%         | 79%   | 76%   |
| Total c)                             | 100%  | 100%        | 100%  | 100%  |

a) Chi-square = 123.22, p-value = 0.00 (d.f. 8). Cramer's V = 0.75;

b) Chi-square = 77.58, p-value = 0.00 (d.f. 8). Cramer's V = 0.75;

c) Chi-square = 119.46, p-value = 0.00 (d.f. 4). Cramer's V = 0.74.

### 17.3.2 Rural idyll

A well-studied rural image in Great Britain is the rural idyll, characterising the countryside as an idealised setting for traditional and harmonious social relations and giving the countryside a mainly symbolic function (Mingay, 1989). This positive and romanticised nostalgic image of rural life is based on pastoral and Arcadian ideals of 18th century England. The rural idyll represents a peaceful and happy life with a close social community, living in healthy and natural rural areas (Cloke and Milbourne, 1992).

In detecting a rural idyll in the Netherlands, the respondents associations with 'rural areas' and 'countryside' are sorted on rural idyllic words such as quietness, space, rural or farmers life, fresh air, pleasant atmosphere, green, nature freedom, small villages, tradition and holidays. The results are given in table 17.8.



Table 17.8 Rural idyll associations

|                        | Students (N = 274) | Seniors (N = 174) | Total (N = 448) |
|------------------------|--------------------|-------------------|-----------------|
| Idyllic association    | 33                 | 71                | 48              |
| No idyllic association | 67                 | 29                | 52              |
| Total a)               | 100                | 100               | 100             |

a) Chi-square 59.9, p-value 0.00 and Cramer's V = 0.36.

In general, about half of the rural imaging associations are related to an idyllic representation of the countryside. Remarkable is the difference in generations: senior people have a much more idyllic view of rural areas than students do. This can be a direct consequence of the age differential, considering the fact that older people tend to look back to their lives, idealising the old days. Robinson (1990) finds a similar tendency in a wide range of literature, where authors look backward to an idyllic countryside, often associated with his or her childhood or youth. For the younger students, who just left their youth behind, this process has not been started yet.

### 17.3.3 Positive and negative aspects of the countryside

The respondents were also asked to give positive and negative aspects of rural areas. Positive aspects are all related to the rural idyll, to the healthy, peaceful and natural way of rural living. By far the most often mentioned positive aspect of the countryside is quietness, directly followed by space. Other aspects are nature, freedom, silence and a pleasant and friendly atmosphere.

Beside remoteness and social control, the lack of entertainment for the students and lack of cultural facilities for the seniors are the most often mentioned negative aspects of rural areas. Most of the negative aspects are related to the image base 'position', which is considered to be peripheral. This aspect is hardly represented in the general associations with rural. Apparently respondents only express their negative views of the countryside when explicitly asked for. In the context of the time-space convergence concept, which states that places move closer together in terms of travel and communication time, these negative aspects of rural areas are overtaken by reality. In the Netherlands, travel times to the countryside are very short. Thus, the dominant images lag behind the real situation, where relative distances in the more urbanised parts of the country are even becoming larger bearing in mind the daily traffic jam news.

Considering both positive and negative aspects of the countryside, it is remarkable that all generation differences suddenly disappear. Both generations are in complete agreement about the advantages and disadvantages of the countryside. One of the remaining questions is whether the discovered rural images are age-specific, and will therefore change as a respondent ages, or generation-specific.

#### 17.3.4 Conclusion

Summarising the importance of the distinctive aspects of the dimensions of rural images, it can be stated that representations of the countryside are mainly formed along the morphological and sociocultural image base. Within these image bases there is a difference between younger people having more morphological, visual images and senior people having more sociocultural associations. The scores in the land use dimension illustrate that agriculture is the dominating image determinant of rural areas; other spatial functions hardly play a role. Furthermore it is interesting to notice a generally neutral attitude towards rural areas among the respondents. The negative aspects are only expressed when specifically asked for. The residential background of respondents clearly influences the rural imagination, where especially the intermediate rural-urban group has the most deviating attitude.

The general pattern in land use changes in the Netherlands is a slow decline of cultivated land and nature in favour of built environment. The pace of these changes is the main cause of regional differentiation in land use changes. Over time, regional differentiation has become more pronounced. Based on the land use criterion, the question whether the Netherlands still has rural areas has to be answered affirmative. Both in 1950 and in 1993 an 'agricultural' cluster was classified, consisting of COROP-areas with a mean share of cultivated land of more than 75%.

Beside in land use terms, rural areas also exist in the minds of people. Countryside images are very much based on the 'traditional', idyllic countryside with a dominant role for agriculture, although 'space' and 'quietness' form a considerable part of the rural images. Rural images differ for specific age groups: younger people have more morphological, visual images which strongly relate to agriculture, whereas senior people have more sociocultural associations with the countryside and consider it an area with both agriculture and nature. The residential background of respondents also influences the constructed images of rural areas, where especially the intermediate rural-urban group has the most deviating attitude.

### 17.4 Discussion

Now that we have an impression of both the changes and regional differentiation in land use and the prevailing rural images, it is interesting to try to detect relations between these two. The most obvious relation is the important role of agriculture in land use and rural imagination. It could also be interesting to find out where people locate rural areas and whether these rural areas correspond with changes in land use. Perhaps the areas classified as 'slow' changers are seen as rural areas.

In the context of the prevailing images of the countryside, it is interesting to pay attention to the relation between these images and rural policy. The decisions of national and regional policy-makers are, at least to some extent, influenced by their rural vision. As Hoggart et al. (1997) observe, there is no guarantee that this vision 'coincides with that held by countryside dwellers. National politicians and bureaucrats can characterise other problems in rural areas than rural residents themselves (p. 24)'.

As the majority of the influential policy-makers in the Netherlands are probably aged fifty years and over, the rural images that infuse Dutch rural policy may fit those of the senior respondents of our questionnaire. Recent developments in rural policy are indeed influenced by a concern about the loss of the traditional, idyllic countryside. Depending on whether rural images are age-specific or generation-specific, a new generation of policy-makers may persist in the present prevailing rural vision or bring a new, more agricultural and functional imagination of rural areas.

*Note*

The authors would like to thank the organisers and participants of the EAAE Seminar 'Plurality and rurality: the changing role of the countryside in urbanised regions' for their inspiring and helpful comments on our paper.

## Literature

CBS, *Bodemstatistiek 1950-1993*. 's-Gravenhage.

Cloke, P. and P. Milbourne, 'Deprivation and lifestyles in rural Wales II. Rurality and the cultural dimension'. In: *Journal of Rural Studies* 8-4 (1992) pp. 359-371.

Dietvorst, A., 'De tijd-ruimtelijke onteigening van het toeristische landschap'. In: *Vrije Tijd en Samenleving* 15-2 (1997) pp. 5-14.

Halfacree, K.H., 'Talking about rurality: social representations of the rural as expressed by residents of six English parishes'. In: *Journal of Rural Studies* 11-1 (1995) pp. 1-20.

Hogart, K., H. Buller and R. Black, *Rural Europe: identity and change*. London, 1995.

Huigen, P.P.P., 'Mist, mest en Mak'. In: *Rooilijn* 98-6 (1998) pp. 266-272.

Huigen, P.P.P. and D. Strijker, *Landbouw en samenleving, een proces van afstoten en aantrekken; essay voor de verkenning veranderende relaties tussen landbouw en maatschappij op weg naar 2015*. NRLO-rapport no. 97/39. Den Haag, 1998.

Mingay, G.E., *The rural idyll*. Londen, 1989.

Ministerie van LNV, *Beleidsverkenning landelijk gebied 21e eeuw*. Den Haag (werkdokument), 1997.

OECD, *Creating indicators for shaping territorial policy*. Paris, 1994.

Pierce, J.T., 'Sustaining rural environments: widening communities of knowledge'. In: Bowler, I.R., C.R. Bryant and P.P.P. Huigen (eds), *Dimensions of Sustainable Rural Systems*. Utrecht/Groningen, Netherlands geographical Studies 244 (1998) pp. 21-44.

Robinson, G.M., *Conflict and change in the countryside: rural society, economy and planning in the developed world*. London, 1990.

Willits, F.K., R.C. Bealer and V.L. 'Timbers, Popular images of "rurality", data from a Pennsylvania survey'. In: *Rural Sociology* 55-4 (1990) pp. 559-578.

## 18. The changing role of the countryside in urbanised regions; Agriculture in the Ile-de-France green belt: preliminary analysis of cost overruns

*André Fleury, Olivier Camacho, Camille ChavaudreT and H  l  ne Redon*

### *Abstract*

This paper discusses the new roles of agriculture expected by modern town-planning. It describes how agriculture is coming back as an urban infrastructure, since the beginning of 20th century. The first part shows the present politics of R  gion Ile-de-France, since the last master plan has created a Green belt all around Paris and its near whole-built suburbia. Agriculture is now expected to maintain its specific landscape and to contribute to urban life. The second part is devoted to a first attempt to assess overrun costs due to urban vicinity; they were studied in the case of cash crops farming system (such as cereals), which give a genuine open landscape, well known and distinctive in Ile-de-France. Now, these costs are no more negligible, in comparison to net income. So, to achieve the regional project, it will be necessary to conceive a new contract between town and farmers:

- to define accurately the urban needs;
- to assess prices of new services provided by agriculture.

### **18.1 Introduction**

For a long time, city growth was subjected solely to the rules of economic interest. In large cities, investors created new economic activities which were interesting for workers. New areas were, therefore, opened to urbanisation to accommodate these new dwellers and to take advantage of rapid means of transport: railways at the end on 19th century, highways beginning in the fifties. Generally, these areas were taken from cultivated zones. This way of growing gave star-shaped towns, due to a concentric-growth centre, with extensions along main roads. Their general plan, from centre to periphery, was:

- town-centre, where businesses and public authorities were located. This section was rebuilt from time to time, with parks and beautiful buildings, and also housed the city's historical heart;
- surrounding districts. Those in which the working-class dwelt were generally ugly, with no urban facilities; others were cleaner, even lovely, and attributed to richer people;
- a difficult area to describe, where the town enlarged. Not yet a town, but no longer the country, this region included fields, meadows (nowadays, often grazed by horses), fallow, rickety buildings, rubbish dumps (even when prohibited), gypsy camps, etceteras;
- lastly, there was the countryside, with well-organised agriculture, especially devoted to the growing of perishable foodstuffs.

This spatial organisation of urban planning is still common. However, a new urban plan began to be designed at the beginning of the 20th century by urban planners (especially Howard), horrified by poverty and the ugliness of workers' districts. The main characteristic of the new city concept is the presence of green spaces:

- in the city, the so called garden city, a large extent of public or private green spaces. These areas must limit population density and improve the quality of the landscape and the environment. Nowadays, architects are attempting to combine higher densities with a pleasant environment;
- around the city, a green belt. It must prevent the town from growing too much to avoid social damage. To reach this goal, Howard wanted to use rural land, the farmers of which were considered urban inhabitants.

So, urban agriculture was born. Feeding people was no longer the only social function of peri-urban agriculture; rural areas were also expected to improve the quality of life in the city. It was no longer a privilege of the town centre. In parallel, agricultural land was to appear in town planning.

Some new cities were built according to this model. For existing towns, the most frequent case, these urban planners suggested rebuilding them first in suburbia rather than in their centres. Nowadays, the green belt model is more and more often chosen by French public authorities for new urban planning. These new conditions are noxious for rural agriculture as town neighbourhoods give rise to genuine harm (traffic, dubious future, and so on). Agriculture is, a priori, less well adapted, except for farms which operate on new markets thanks to the proximity of towns, but such are not numerous. The main question is whether large scale farms can remain sustainable in these conditions since, up to now, there has been no market to pay for the specific task of integrating the farm as a component of town design.

Paris is a town which was built in valleys (Seine, Marne and Oise), the total area of which was large enough to allow the city to grow for a long time. This situation lasted throughout the 19th century, when urban expansion was rapid, since railways, the main vehicle of urbanisation, were necessarily located in valleys. Plateaus were urbanised belatedly, beginning in the fifties, thanks to the generalisation of cars. As towns continued to spread, peri-urban agriculture moved back. Market gardening conquered new lands up and downstream; large scale farming had less land, but yield improvements compensated for the loss of land. At any rate, cultivated areas near towns were always considered as necessarily devoted to construction. In 1965 they were still named free land on town plans. Later, however, there was a double change:

- because of new environmental ideas, urban planners, converted to green principles, understood that the spread of zones commonly used for construction moved town dwellers further and further from Nature;
- farms began to be clearly considered as enterprises; local public authorities were expected to assure the security of agricultural activities in rural areas.

The limit between cultivated and constructed areas was thus turned into a true, clearly set and lasting boundary (here towns, there country). Within this framework, the regional master plan of 1976 created natural balance areas (Zones Naturelles d'Equilibre;

ZNE). These ZNE have generally remained unbuilt, with different legal statuses (Parc naturel Régional, Site classé, etceteras). This concept was further developed in the regional master plan of 1994 and the absolute boundary was turned into a green belt, 20 km wide, by incorporating all green spaces near towns. Land use in the green belt is now: 50% buildings, routes, etceteras, 25% agriculture, 25% forests. At the same time, cultivated areas began to be considered as natural zones. The Ile-de-France Region has chosen to develop a new kind of agriculture called vicinity agriculture, which can also be called urban agriculture (Fleury and Donadieu, 1997). Two main ideas are conveyed:

- to maintain an agriculture of proximity, devoted to new urban needs;
- to develop family gardens.

Nevertheless, this agriculture is not defined as a farming system, even if its land is called green and landscaped. A priori, it is expected to be different from that of the Couronne rurale (the rural ring, outside the green belt). However, an appreciation of the appeal of agriculture is gradually becoming more focused: agricultural landscapes take up a large place among Ile-de-France' landscapes, even those within the green belt (Iaurif, 1997). City authorities are, thus, naming themselves as managers of peripheral rural areas.

This paper aims at presenting a preliminary study of conditions for large scale farming in this green belt. This farming system can be thought to be in bad economic conditions in the city countryside. It is exposed to extensive difficulties as its products (cereals and industrial crops), which are sold to food factories, are no longer interesting on the local urban markets. There is, therefore, no advantage to having these farms where they are located. Still, their impact on the landscape around the urban zone is recognised as an asset.

## **18.2 Agriculture in the green belt**

### **18.2.1 Diversity of agriculture in the countryside around the city**

Two points of view are important. First, one must consider spatial positions:

- true peri-urban areas. It could be said there are two sides to farms: one towards the town, the other towards the country. On the first, farms are submitted to urban nuisances, but on the second good connections are maintained with rural infrastructures;
- some are now surrounded by towns, and named intraurban areas. They have remained building-free for various reasons: national heritage (such as Plaine de Versailles, near the palace), environmental risks (crash contingency and noise near airports, noise near highways, flooding near rivers, etceteras), security of some infrastructure components (airport, telecommunications, etceteras). Sometimes, also, there is no true project (as in the Triangle de Roissy-Gonesse). In such areas, farming is often more and more difficult because of the break in the continuum of rural space. Secondly, three kinds of farming systems can be observed:

- rural agriculture near towns. The usual agricultural goods, such as cereals, vegetable, meat etceteras, are sold on national or global markets. These farms maintain the rural landscape (large fields), where modern material is visible;
- usual agriculture specialised in perishable foodstuffs. Nowadays, its economic condition is losing strength, because it has lost the competitive advantage of proximity to the modern delivery means of distant producers;
- new specialised agriculture: rural services (horse boarding, for instance), intangible products (pick your own, education, etceteras), and the added value for other products of maintaining a direct relationship between the farmer and the buyer (sale on farms, or on town markets, etceteras).

## 18.2.2 Analysis of local agriculture

Whatever the point of view, this form of agriculture is in a difficult condition compared to that of rural agriculture. It is, in fact, disappearing. If public policy chooses to keep it alive the main constraints affecting it will have to be controlled.

### 18.2.2.1 Analysis of constraints

Several kinds of problems stand out, because of urban neighbourhood. Competition for land is always very intense for two main reasons. Each urban user must pay higher prices than farmers; the latter, therefore, are urged to go away. Moreover, landlords will not accept long term rent. The farmer's guarantee is therefore often precarious in the peri-urban area, rendering agriculture unsustainable.

Distances between agricultural infrastructures are becoming an important issue. In Ile-de-France, there are no more plants for canning industries, starch factories and so on. There are now few factories treating milk, meat or sugar. In the same manner, rural services are also badly provided. There are no offices specialised in urban agriculture; farmers must solve their difficulties themselves with no security for the future.

Between farmers and city dwellers there is a gap because, nowadays, the latter have no agricultural memory. Fields are often seen as an open area, not as private property:

- they are a play site for children (for flying kites) or for adults, fond of 4 wheel drive vehicles;
- they are a location for rubbish dumps, gypsy camps;
- a lot of people come and pick cultivated plants to eat, to ornate their homes, and so on.

Division of land is strong. There are two contrastive situations in landed property:

- there are large estates, which have sometimes existed for a long time, as well as recent developments by public or private investors. Fields are often large, and well suited to modern agriculture;
- on other sites, land is divided into very small plots. Their owners are very numerous, sometimes distant or even unknown.

This situation is due to several reasons:



- a division occurs at each generation due to the difficulty of satisfying all heirs and, usually, in the hope that land value will increase;
- for a long time, public projects (especially new roads) did not take agricultural land organisation into account, thus creating odd-shaped plots. A large improvement was obtained in rural areas when it was decided that country planners should restore the means of production to each farm through regrouping. This obligation does still not exist in peri-urban areas.

There are a lot of wild animal species ; two of which are very harmful in the Ile-de-France. Rabbit warrens are a main problem along roads (especially along motorways) and around airports. They also destroy young plants, especially vegetables. Pigeons live in the woods and under the roofs of historical buildings. They eat seeds, especially young pea seeds. The struggle against such pests is difficult because there is no convenient legislation for zones near highly inhabited areas. Ecologists are now more powerful than farmers.

Fruit and vegetable quality is threatened by atmospheric pollution. A motorway is harmful to air quality fifty meters to either side. Re-use of wastes or sewage water is more and more difficult for each crop and people's reasons for producing waste are more and more subjective.

#### 18.2.2.2 Specific aspects of the farm economy

All these difficulties make a new model necessary. It must, however, be carefully worked out, due to differences between rural and peri-urban agriculture. This difference concerns the composition of family incomes, prices of agricultural goods and operating.

##### *Relationships between the farm and the family*

Nowadays, the income of agricultural families is not only generated by agriculture. On the one hand, women often have their own jobs; on the other hand, men can be part-time farmers, even if they have high salaries. Such farmers are becoming increasingly more interested in economic efficiency and consider the total family income. Along the same lines, hobby farming is a new kind of agriculture which cannot be analysed in the same way as traditional farming.

##### *Value of agricultural goods*

There are two components in the price of agricultural goods:

- the price on the national market, which depends only on genuine characteristics and which is unique to the location of production;
- the added value due to specific marketing of, for instance, fresh products sold to consumers on the local urban market.

##### *Operating costs*

They can be analysed as two components:

- genuine production costs, which are the same under rural or peri-urban conditions (fertilisers, seeds, work time, and so on);
- overrun costs, due to peri-urban conditions (problems of traffic, theft, etceteras).

### *Action of public authorities*

When they want to maintain agriculture in a given area, the public authorities use various methods. For instance, special incentives in mountainous areas, known as Indemnité Spéciale Montagne, help to maintain the population in regions where living conditions are difficult. Compensation can also be paid to farmers for different reasons: protection of the environment, heritage or landscape. Such compensation is, for instance, paid to farmers of Mont d'Or, near Lyon, to prevent meadows they no longer use from turning into fallow ground.

So, characteristics of agricultural production can be seen in peri-urban conditions. Production costs are often higher, especially in intraurban agriculture. Prices can be higher when consumers acknowledge service and quality. Larger surfaces may compensate smaller income per ha. The role of public policy is beginning to be very important.

## **18.3 A trial of cost overrun assessment**

### 18.3.1 Methodology

#### 18.3.1.1 Two locations belonging to the green belt were studied

In both locations agriculture is sustainable because the farms are big (most of them exceed 100 ha), prosperous and their future is assured, from the family point of view (young farmer or known successor). The farming system produces cereals and industrial crops. They are quite different due to their urban design and the nature of the boundaries between urban and cultivated areas.

The Triangle de Roissy-Gonesse (TRG), near the southern part of the Charles de Gaulle airport, is part of the Pays de France, which was isolated by the airport. It is surrounded by constructed areas, the shape of which is formed by a highway (A1), a large road (N17) and the airport area. About ten farmers are cultivating the main part of 1,000 ha. Owned plots are very small, but they are arranged in large fields, appropriate for cereal production. This area is not devoted to a town project; it has remained unbuilt, initially to limit traffic density between Roissy and Paris (a reason which is no longer valid) afterwards, because of the disagreement between land owners (especially local, regional and state authorities).

The Plateau de Saclay, to the south-west of Paris, is in the northern part of the Hurepoix. Its boundaries are clear: on the one hand, fully constructed valleys (Chevreuse valley, Bièvre river and two smaller rivers), on the other hand a new town (Saint Quentin and Yvelines). The plateau was developed three centuries ago to provide the Versailles Park with water. Unconstructed until 1950, it was first devoted to environmental risk laboratories. Now, however, a large number of educational and research organisations are

located there. Ile-de-France's master-plan keeps 2,200 ha building-free. A new project has been designed for combining agriculture and science. Rural spaces are thus becoming a living environment for scientists to study while serving as a lesson on rural culture and a sustainable town, created by the landscape. There are about 15 farms; four of them belong to agronomic research organisations. Fields and properties are large enough; cereals are the main crops.

#### 18.3.1.2 Observation methods

Farms were surveyed during the summer of 1998 (Camacho, 1998; Redon, 1998; Chavaudret, 1998). The spatial organisation of the fields was studied, with a view to assess how it is managed by farmers (traffic organisation, control). Each farmer was asked about:

- field locations, and crops;
- itineraries between three poles: farm buildings, fields and crop delivery sites;
- farming difficulties: constraints were classified and assessed on a scale from 0 to 3, and some details were requested.

Two methods of assessing cost overruns were used: Farmers were asked to assess the values of constraints, the nature of difficulties, the means of adaptation. The information was often rough and unchecked, but some farmers assisted in clarifying their statements. Moreover, some information was quantified as well as possible.

A comparison was made of farms chosen in rural and peri-urban locations, with similar surface areas and crops. First of all, an effort was made to match farms which would have the same farming systems in a rural and an urban environment. This approach proved too difficult, because it was also impossible to compose two similar groups, due to the differences in scale and number; especially in peri-urban areas, the number of farms is too low in any given location. So, with the help of G. Millet (INRA-Economy, Grignon), a virtual rural farm was calculated on the basis of data on a group of true farms from a rural economy network, called RICA (Réseau Intégré de Comptabilité Agricole) <sup>8</sup>.

#### 18.3.2 Some preliminary results

##### 18.3.2.1 Adaptation to problems of land structure

On the Plateau de Saclay, properties are large enough for modern agriculture. In the TRG however, owned plots are very small. In rural law, regrouping procedures are not applicable, because land value is thought to be too high and too variable due to numerous factors. Farmers, therefore, have developed a method of exchanging their legal rights (ownership, rent contracts), to have larger fields. This exchange is not truly legal, but it is well accepted by all farmers. When a plot is taken for construction purposes (houses, roads, etceteras), legal rights permit the owner and the tenant to be compensated even though they are not cultivating the land. So, the loser would be the farmer who actually cultivates without rights. But, in this exchange method, those who are compensated must

---

<sup>8</sup> 250 farms in Ile-de-France were observed over a long period of time, as a representative sample.

be given the same land area elsewhere, near one of their other fields. This system is efficient because:

- farmers' fields are, on an average, 30% in the TRG zone and 70% beyond the airport in the Plaine de France, a large rural area;
- farmers as a group compose a true social entity.

This system is organised by a true Geographic Information System, managed by a land surveyor.

#### 18.3.2.2 Assessment of nuisances

From initial observations, three kinds of adaptations were observed, depending on a farmers ability to control a given problem:

- if no technical means exist, there is a reduction in production. If this reduction is too high, the crop is given up (for instance, there are neither peas near a town, because of pigeons, nor sugar-beets, because of a lack of factory);
- if an efficient technique exists, it is integrated into the cropping system (for instance special treatments, a change in rotation, etceteras). Production costs are, therefore, higher;
- this higher cost can be compensated for by actions stemming from the political desire to maintain a given crop or agriculture.

Table 18.1, thus, distinguishes between the first and second cases. Two groups of nuisances are discussed: those due to population (gypsies, other inhabitants), and those due to infrastructure, such as the danger created by agricultural traffic, and the carelessness with which public utility services have ignored agriculture. The strongest constraints are those without any technical solution except giving up crops:

- crop predators, pigeons and rabbits, live in protected areas, pigeons in large urban parks and rabbits on the edges of roads or takeoff runways. The struggle against such pests is difficult because of inhabited areas and social concern about wild fauna;
- wastes are noxious, not necessarily per se, but because of social representations. In the past, and even today in Asia, people had a positive opinion about waste (recycling it for fertility management); nowadays feelings are rather negative due to all of the fears, more and less well founded, about pollution;
- the fear of gypsies is both an old opposition between sedentary people and nomads, and a physical problem created by their encampment on fields after harvest (they do not spoil crops). They are blamed for producing garbage and sometimes with being threatening. In fact, other people as well are responsible for dumping. Cleaning should be handled by council workers, but it is often carried out late. It is also done by farmers;
- numerous nuisances are correlated to traffic. Accidents are frequent because of drivers who underrate speed differences between cars and agricultural implements on roads. Fields are often entered from roads, leading to blockage. It is sometimes so difficult to deliver crops that farmers prefer to give up.

Table 18.1 Assessment of nuisances by farmers

| Origin of cost overruns  | Mean | Standard deviation |
|--|------|--------------------|
| <b>Constraints integrated in farming system</b>  |      |                    |
| <i>Caused by populations</i>   |      |                    |
| - to bring back implements from fields to farm after use, every evening, sometime twice a day. | 1.6  | 1.1                |
| - changes in farming system in order not to disturb neighbours.                                | 1.6  | 1.1                |
| <i>Infrastructures</i>   |      |                    |
| - all problems about crop delivery: lorries' approach into fields, pools of mud on roads.      | 1.8  | 0.9                |
| - change in farming system because of distance of some fields.                                 | 1.8  | 0.8                |
| - difficulties because of traffic (differences of speeds, new developments on roads)           | 2.3  | 1.1                |
| <b>Undergone constraints</b>   |      |                    |
| <i>Populations</i>   |      |                    |
| - theft of implements in fields or in sheds  | 1.4  | 1.2                |
| - theft of crops (vegetable, fresh maize ears, flowers of oil rape seed).                      | 1.2  | 1.1                |
| - crop trampling (walkers, off-road vehicles)  | 1.1  | 1.2                |
| - dumping, neglected cars (sometimes burnt)  | 1.9  | 1.2                |
| - encampment of gypsies.   | 2.3  | 1.0                |
| <i>Infrastructures</i>   |      |                    |
| - wild animals, specially pigeons and rabbits.   | 2.7  | 0.7                |

Lastly, there are a large number of smaller difficulties:

- material theft is a problem;
- preventing is, paradoxically, even more expensive than doing nothing;
- pesticide use must be reduced to avoid quarrels with urban neighbours.

### 18.3.2.3 Assessments of some cost overruns

Figures 18.1 and 18.2 give data supplied by farmers. It is not possible to give mean values because the number of farmers is too small; therefore, each one is a special case. Moreover, it was not possible to analyse purchases over a period of several years. However, collected results are interesting. In figure 18.1, devoted to cereals and industrial crops, there is no valuable data about traffic. Nevertheless, traffic does exist, especially for supervision purposes. For instance, large machines must be escorted on the road by an accompanying car. A man must walk in front of combines during harvesting of the first rows. Visits to fields must be more frequent and so on. Above all, some crops such as potatoes or sugar beets have been given up, even though they would assure farmers a better income than cereals, due to the lack of factories in the proximity. There are no more peas because of pigeons. Quantities at harvesting show a mean value of about 300 F/ha/year.

| Constraint                    | Kind of overrun cost   | Assessment for whole farm                        | Assessment per year and ha                   |
|-------------------------------|--|--|--|
| Thefts, trampling             | Watch of fields  | from 710 to 2700 FF                              | from 5 to 27 FF                              |
| Wild animals damages          | To seed again crop fields (specially maize)  | 23,400 FF  | 187 FF                                       |
|                               | Setting of wire netting  | from 13,300 to 15,000 FF depreciation in 5 years | from 6 to 21 FF                              |
|                               | Purchase of fire-crackers  | from 500 to 1,000 FF each year                   | from 2 to 7 FF                               |
|                               | Purchase of gas  | from 520 to 2,080 FF each year                   | from 2 to 8 FF                               |
|                               | Frightening guns   | from 1,000 to 10,000 FF depreciation in 5 years  | from 0,75 to 4 FF                            |
| Neighbourhood                 | Change of pesticides   | 1,780 FF   | 12 FF  |
| Remote fields                 | Change of pesticides because of change of crop rotation (continuous wheat)                               | 5,020 FF   | 11 FF  |
| Dumping, gypsies<br>Trampling | Extra works (collection, watch, closing of entrances to fields or sheds).<br>To plough set aside fields. | from 2,440 to 9,600 FF<br>from 790 to 13,340 FF  | from 17 to 21 FF<br>from 6 to 30 FF/ha       |
|                               | To watch fields  | from 300 to 4,800 FF                             | from 3 to 43 FF/ha                           |
| Extra implements              | Implements transporter   | 32,500 FF (new)<br>+/- 20,000 FF (second hand)   | from 12 to 36 FF/ha (depreciation: 10 years) |

Figure 18.1 Increase of farm's overheads (FF/ha/year, calculated for whole farm), cereals and industrial crops

| Constraint               | Kind of overrun cost   | Assessment  | Assessment per year and ha                                      |
|--------------------------|--|---|---|
| Wild animals damages     | Crop losses  | from 20,000 to 25,000 FF  | from 800 to 1,000 FF  |
|                          | Live wire netting  | from 30,000 to 40,000 FF  | from 120 to 160 FF  |
|                          | Frightening guns   | 700 FF  | ?   |
| Thefts, dumping          | Broken locks, stolen fuel<br>garbage collection<br>Irrigation tube | 1,040 FF<br>from 240 to 720 FF<br>25,000 FF (am. 5 ans)                               | 42 FF<br>from 10 to 29 FF<br>200 FF                             |
| Agricultural moving      | Fields stand in 3 locations  | ?   | ?   |
| Results of multilocation | Extra implements   | 1 tractor: 169,700 FF<br>1 sprayer: 11,400 FF<br>1 harrow (cultivateau):<br>35,600 FF | 970 FF (depreciation 7 years)<br>65 FF (idem).<br>200 FF (idem) |

Figure 18.2 Increase of farm's overheads (FF/ha/year, calculated for whole farm), market gardener

This sum is over 10% of the mean income in the Ile-de-France. So, with non-assessed overruns, the reduction in income is about one third of the mean income, more for some farmers, less for others.

Figure 18.2 concerns only one market gardener. It shows higher cost overruns due mainly to the difficulty in irrigation facilities upkeep, essential to this farming system. In this case, vegetable theft was not considered as an important factor by the farmer.

Figure 18.3 gives some overrun costs for the more frequent crops. Each cost can seem low, but the total can reach a high sum, when it is compared to gross income.

|  | Wheat, Barley   | Maize                           | Oil seed rape         | Sugar Beet            | Pea                                    |
|--|---|---------------------------------|-----------------------|-----------------------|--|
| Thefts,  |   | from 42 to 142 FF/ha            | 71 FF / ha            | from 280 to 320 FF/ha |  |
| Watching   |   | from 10 to 39 FF/ha             | 15 FF / ha            | 19 FF / ha            |  |
| Wild animals damage  | from 17 to 855 FF/ha<br>1900 FF/ha<br>(outstanding value)         |                                 |                       |                       | from 55 to 505 FF/ha                   |
| Protection implements<br>wire netting:<br>Guns<br>Rockets/bangers / gas                                    | from 18 to 47 FF / ha<br>from 3 to 14 FF/ha<br>from 7 to 28 FF/ha |                                 |                       |                       | from 3 to 14F/ha<br>from 7 to 28 FF/ha |
| Neighbourhood (no treatment)   |   | from 126 to 252 FF/ha if pyrale | from 292 to 585 FF/ha |                       |  |
| Overrun costs of pesticide   | 59 FF / ha  |                                 | 59 FF / ha            |                       |  |
| Distance of fields from farm ; losses because of simplification of farming system (wheat / wheat rotation) |   | 42 FF/ha                        |                       |                       |  |
| Overrun costs of pesticide   | 31 FF/ha  |                                 |                       |                       |  |
| Dumping  | 56 FF /ha   | 48 FF/ha                        |                       |                       |  |

Figure 18.3 Decrease of gross income (FF/ha/year)

#### 18.3.2.4 Comparison with equivalent rural cases

Data was given for 4 farms (table 18.2). At a glance, one sees that there is only one strong difference: depreciation costs. The reason for this situation is that these farms are often over-equipped: on average, there is one spare tractor, dedicated to urgent jobs, such as harvesting (crop delivery). More fuel expense is also obvious in such cases.

- Other costs are more variable for two reasons:
- farming systems have been adapted. The best example is the rearrangement of fields in the TRG. As a consequence of infrastructural changes, law compels deciders to pay; in the case of Charles de Gaulle Airport, costs were about 2,000 F/ha;
  - some costs are lower. Sometimes, lower quantities of pesticide treatments can be observed. There is also lower rent, due to precarity.

Table 18.2 Differences of expenses between peri-urban and rural farms

|                        | Farmer 1  | Farmer 2  | Farmer 3  | Farmer 4 |
|------------------------|-----------|-----------|-----------|----------|
| Fertilisers            | +324      | -55 FF    | -210 FF   | ε        |
| Seeds                  | +219      | +152 FF   | ε         | +443 FF  |
| Pesticides             | +406      | ε         | -171 FF   | -345 FF  |
| Fuel                   | ε         | ε         | +109 FF   | ε        |
| Works done by others   | ε         | +1,053 FF | +127 FF   | ?        |
| Rent                   | -135 FF   | -353 FF   | +191 FF   | -394 FF  |
| Insurance premium      | ε         | +87 FF    | -152 FF   | +83 FF   |
| Implements maintenance | ε         | +98 FF    | +218,5 FF | -273 FF  |
| Depreciations          | +1,843 FF | +955 FF   | +1,352 FF | +998 FF  |

Note: Differences of expenses regarding fertilisers, seeds, pesticides are mainly depending on personal choices of farmers.

## 18.4 Discussion and Conclusion

This survey was an initial attempt and of course shows the typical weaknesses inherent to such undertakings. The main difficulties arise from the fact that, in any given situation, farms have a large number of incidental differences. It is, therefore, not possible to assess averages. Each farmer has its own history. Also, it is not possible to check assessments. The information is, however, sufficient to confirm the hypothesis that cost overruns are real, even without the relevant values. Nevertheless, these results are interesting.

Firstly, the adaptation of farming systems can be observed. Farmers are now experienced in working under these special conditions. A good relationship exists between farmers as a true professional group. This phenomenon can be observed in both areas studied, especially concerning land rights. Good communications are maintained with rural areas where main agricultural infrastructures are found.

Secondly, in spite of these adaptations, cost overruns are real and put farms in long term danger of failing, due to lower reproducibility for future.

Thirdly, farmers are suffering from a lack of consideration on the parts of:

- urban dwellers, who often unwittingly create problems for farmers;
- local authorities who do not pay enough attention to agricultural difficulties. They don't try to anticipate the development of urban projects in relation to the new role of agriculture.



Under these conditions, one might wonder why farmers are staying on the land. Several reasons are obvious. First, farmers are trapped at the short term. When they have lost 10 or 15% of their farm surface, they are bound by the remaining 85 or 90%. So, with indemnities, they look for new surfaces in the vicinity, not too far from their present fields. Finding such fields is often difficult because in the countryside around cities land is seldom available and competition is strong between farmers. We call this process near relocation. Near relocation is very different from far relocation, which is a true emigration. The second reason is the adoption of urban market oriented systems (rural services, intangible products and so on). There is then a new linkage with nearby town dwellers. This is truly a new avenue of development. The last one is the changing taste farmers families very often have for urban life, especially women and young people. When children do not wish to take over after their parents, farmers look for capital gains rather than change their farming system.

Still, farmers stay. They do not yet have a clear understanding of urban plans for their land. The only words used by the Ile-de-France green belt designers are related to landscape and to near urban markets, without any more accurate explanations. This is clearer on the Plateau de Saclay, because an openfield landscape is obviously desired, with a true preoccupation to ensure the future for farming. So, farmers tell themselves they can reinvest since they feel a stronger policy coming from public authorities. Public investment is beginning to be managed, especially as concerns rural traffic (rebuilding of small bridges over old drainage ditches, for instance).

It can truly be said there is no real chance for a successful green belt without changes in the relationship with farmers. Nowadays, long term land stability is developing. Laws which forbid building are stronger and longer-lasting. Public agencies have bought large estates and have rented them to farmers for longer periods of time (18 years is the duration of usual rural rent). This is an important first step which restores farmer trust. But, real progress will be a true joint land management program, which will have to be the new rule for urban planning in such areas. Better knowledge of agricultural operations is, also, necessary. For instance, crop delivery is now a stronger anxiety due to increased traffic and the removal of agribusiness plants from Paris. Also, a new conception of extension services must be made to improve methods, to test new, less noxious cropping systems and so on. Mainly, landscape and good environment must be defined as farming spin-off, as an externality of genuine value. Then, cost overruns can become a first assessment of production costs. In a second phase, land planners will have to be able to design new landscapes, negotiated with farmers. This should be public policy, the price of which will have to be negotiated.

Such an idea is beginning to develop in France. It could lead to a mutual agreement between local authorities and farmers, signed for a 5 year period. It could be paid for by both the state and the region and called the 'contrat territorial d'exploitation'. This development ushers in two big changes:

- public authorities will have to define their plans with more accuracy so they will be acceptable to farmers;
- the price of intangible spin-off (landscape) must be estimated and an evaluation system must be developed.

## Literature

Camacho, O., *Reconstruction durable d'un espace périurbain*. Mémoire de fin d'études, INAPG/ENSP, 1998.

Chavaudret, C., *L'agriculture de la ceinture verte parisienne; pour un paysage durable; cas du Plateau de Saclay*. Mémoire de fin d'études, ENSAM/ENSP, 1998.

Fleury, A., Donadieu, P., *De l'agriculture périurbaine à l'agriculture urbaine*. *Courrier de l'Environnement*. INRA éd., 31, 45-61, 1997.

Iaurif, *Paysages de l'Ile-de-France*. Cahiers de l'Iaurif, no. 117, 1997.

Redon, H., *Reconstruction durable d'un espace périurbain*. Mémoire de fin d'études, 1998.

# Keynote papers

## 19. Keynote papers: overview

*Hans Hetsen*

Two speakers were invited. Hans Hetsens' task was to give his opinion on the research agenda with respect to rural development. Andrew Errington was asked to comment on this speech. His lecture turned out to be a strong plea for rural development research.

Hetsens' presentation is an outline of a recently published report of the Dutch National Council for Agricultural Research (NRLO): Rural areas put on the map. Knowledge and innovation priorities; Aspirations for the 21st century. It involves both the development of rural areas outside the big cities and the interactions between urban and rural dynamics.

Hetsen starts with presenting the main challenges that are confronting the Netherlands in developing rural areas. The policy agenda for rural areas is made increasingly from an international perspective. It is also in this perspective that rural areas are seen to have three main functions:

- economic production space for agriculture and other sectors;
- an attractive environment to live in;
- strategic supplies of water (systems), space, bio-diversity, scenery and cultural history.

In the coming years society will put higher demands to all three these functions. Government authorities, project developers, organisations, researchers and all those who will be active in rural areas are faced with challenging tasks of innovation. Perhaps one way to find innovative solutions is to integrate (land use for) the three functions. Priority issues in knowledge and innovation are:

- Internationalisation and rural areas;
- Quality level and liveability of multifunctional rural areas;
- Interaction between town and countryside;
- Process control in rural areas.

The type of knowledge that is freshly needed, will put high demands on the knowledge infrastructure for rural areas. Today, the infrastructure is unable to meet those demands. Hetsen presents suggestions for improving the infrastructure of knowledge.

Errington put the case that the subject of rural development is assuming an increasingly important role in public policy in many Western countries. Changes in the agricultural sector form only one aspect of the socio-economic restructuring of rural areas. It is this wider restructuring, which is linked to changing power relationships within rural areas, rather than CAP reform alone that is bringing rural issues closer to the centre of the stage.

The increasing mobility of the population has facilitated counter-urbanisation. Changes in production technologies and production structure have led to the emergence of 'footloose' firms for whom the location in a rural environment is attractive and have given

rise to the 'second wave' of counterurbanisation as jobs have flowed back into some rural areas.

Rural areas are not homogeneous. Between the remoter rural areas and those within the urban field, which is the primary focus of this seminar, the policy issues and the research agenda will vary. Errington points out the lack of attention from the European Commission for these latter (peri-urban) areas. Issues as social exclusion and employment creation within the peri-urban fringe may be rather more important than the EC's analysis (in the document *The Future of Rural Society*) suggests. Errington has examined the strands in the case for public-sector interventions in rural areas. Two strands are especially important for the peri-urban fringe namely: 'Reducing the congestion costs of over-development' and 'Maintaining balanced rural communities'. Errington's general research approach is to build up a picture of the role of small towns in the rural economy through a series of case studies which he encourages others to replicate. In view of the heterogeneity of rural areas such an incremental approach has significant advantages.

Errington argues that the field of rural development research is becoming increasingly important in Market Industrialised countries because of the fundamental economic and social restructuring of their rural areas. It is particularly well suited for multidisciplinary research. Its main goal is to answer some important and urgent questions about how scarce rural resources facing competing and often simultaneous uses, can be used to maximise human welfare. By saying this and in an economic terminology, Errington endorses the priority issues in knowledge and innovation in the agenda of Hetsen.

## 20. Knowledge and Innovation Priorities: Aspirations for the 21st Century

*Hans Hetsen*

### 20.1 Rural areas in the 21st century

Things are stirring in rural areas. Animated discussions are being held in the media, in politics and in science on the use of space and on the spatial quality of our land, both now and in the future. The use of rural areas is frequently playing a key role in the debate. The following issues can be repeatedly observed.

- Rural areas will have to meet increasingly higher demands. What can we do to achieve that requirements are met?
- As a result of a common European market the dynamics of economics are increasing, thus also increasing pressure on (green) space in the Netherlands.
- How do we deal with increasing urbanisation, with infrastructure and rural areas and how do we try to achieve that they are connected?
- What can we do to achieve that soil and water become and remain clean for the benefit of agriculture, nature, recreation and other facilities?
- Where do we find space for agriculture, for nature, for recreation and housing and how may those functions be combined?
- Will it be possible for economic actors beyond agriculture to invest in rural areas, thus contributing to the vitality of the countryside?
- What can the government do to create favourable conditions for high levels of spatial quality while at the same time leaving a great deal to decide by regional authorities?

The policy agenda for rural areas is made increasingly from an international perspective. It is also in this perspective that rural areas are seen to have three main functions:

- economic production space for agriculture and other sectors;
- an attractive environment to live in;
- strategic supplies of water (systems), space, bio-diversity, scenery and cultural history.

Over the next few years a great deal of money will be spent on investments that are designed to improve and expand infrastructure. They must be seen as an impulse to achieve adequate spatial-economic structures as well as sustainable economic development. One of the challenges will be that investments in spatial planning are used to improve the quality of rural areas.

Implementation of policy priorities will strongly appeal to the innovative powers of all those who have an interest in rural areas. Policy challenges will be highly integrative. It will be necessary to find ways for developing and balancing combinations of functions, for reinforcing green qualities, for reconciling town and countryside, economy and ecology, and for building new coalitions that may be able to combine private and public interests.

### *Priority issues in knowledge and innovation*

Government authorities, organisations and all those who have been - and will be - active in rural areas are faced with challenging tasks of innovation. Four subject areas are involved here:

1. Internationalisation and rural areas  
What can be done to develop rural areas in the Netherlands during the next few decades so that they will benefit most from the difficulties and opportunities resulting from increasing internationalisation?
2. Quality level and liveability of multifunctional rural areas  
What can be done to reinforce both the quality level and liveability of multifunctional rural areas while allowing for great regional diversity?
3. Interaction between town and countryside  
During the next few decades it will be a major task for both public and private actors to develop new concepts in the interrelations between town and countryside, seen against the background of a gradual abandoning of concentrated urbanisation and a less powerful position of agriculture.
4. Process control in rural areas  
To achieve adequate developments of rural areas during the next ten years, it will be necessary to find control and co-ordination mechanisms that are adequately adjusted to the newly found balance between the market, the state and society at large.

### *The knowledge infrastructure for rural areas*

Knowledge development for the benefit of the four subject areas defined above will make high demands on the infrastructure of knowledge. Today, the infrastructure is only very slightly able to meet those demands. One of the reasons is that studies investigating the four subject areas will have to satisfy highly specific conditions, while another reason can be found in the qualities of the present knowledge infrastructure in relation to rural areas. The following table briefly presents how characteristics in their present form differ from the knowledge and knowledge infrastructure as they are thought desirable.

| Characteristics  | Today   | Desired  |
|--|---|--|
| <b>Knowledge</b>   |   |  |
| Orientation<br>town - countryside<br>knowledge - innovation<br>research - design<br>discipline orientation | sector-specific<br>separate<br>separate<br>separate<br>monodisciplinary | integrative<br>town and countryside<br>interactive knowledge<br>integrated<br>multi- and interdisciplinary |
| <b>Knowledge infrastructure</b>  |   |  |
| identity of rural areas<br>capacity<br>component parts<br>steering<br>role KCW<br>public/private knowledge | vague<br>small<br>separate<br>segmented<br>limited<br>separate          | clear<br>adequate<br>interrelated<br>integrated<br>powerful green partner<br>mutual exchange               |

Figure 20.1 Today's and desired knowledge

- The conclusion can be drawn that there is a great deal of tension between:
- on the one hand, the demands made on new types of knowledge and innovation with respect to rural areas: complete, integrating rural and urban (urban) knowledge, interdisciplinary, interactive;
  - on the other hand, the characteristics of the current infrastructure of knowledge: disintegrated, sectarian, separating urban from rural knowledge, lacking in depth and design orientation, research and innovation being in separated domains.

This tension might be diminished. Three proposals are presented to achieve this.

## 20.2 An impulse for rural areas: towards a knowledge and innovation network

Research carried out for the benefit of rural areas would be gaining considerably in depth and relevance if a network were created to interconnect the various parts in the knowledge and innovation infrastructure. The aim of the network would be to bridge the gaps between knowledge and technology development and innovation processes, between urban and rural knowledge, between research and design or between knowledge derived from the humanities, the social sciences and the natural sciences.

This bridging role may be adequately performed by a Rural Areas (RA) knowledge and innovation network. In it, it may be useful to apply mechanisms and know-how accumulated in the LWI network (Land, Water, Environment, Information Technology), which was created as part of the activities by the Inter-Departmental Commission on Economic Structure (ICES-I). If the network is really to be substantial, it should receive a government share to the amount of NLG 30 million, analogous to the financial basis of the LWI network. Four actions may be considered to activate an RA network.



*Action 1: Research programme for town and countryside*

A first step to realise an RA network may be to start the implementation of a programme of both basic and strategic studies to examine the interactions between town and countryside. A research programme of this kind has already been commissioned under the authority of NRLO and the Physical planning Research Network (RO Network).

*Action 2: A special development programme of policy-defining research into rural areas*

A special development programme may help to reinforce policy-defining scientific contributions in developing rural areas while at the same time promoting strategic partnerships between the Wageningen Knowledge Centre (KCW) and faculties of policy studies elsewhere.

*Action 3: An innovation programme for the reconstruction of pig-farming areas: a knowledge and innovation network*

The challenge here is to build a knowledge and innovation network that will support the strongly comprehensive approach which will be needed in reconstruction. In the programme, the innovation task will be the starting-point to direct the development of knowledge and skills. Scope and range of innovation tasks will find their counterparts in knowledge development as needed, requiring contributions by a great number of scientific disciplines.

*Action 4: Innovation programme on valorisation of recreation and tourism by applying chain methods*

An NRLO study conducted earlier demonstrated that there is great potential in approaching rural development in terms of markets, chains and networks.

An innovation programme might offer opportunities to build on early results achieved by using chain methodologies to establish recreational and tourist potential.

### **20.3 Reinforcing KCW<sup>9</sup> as a partner in a Rural Area network**

Being a partner in a Rural Area network, KCW should have sufficient capacity, both qualitatively and quantitatively. Today, the centre's resources are insufficient to adequately cover the issues discussed above. More specifically, its current capacity is inadequate in the following three domains:

- Designing while exploring is poorly developed. This refers to a methodology in which resolutions of innovative designs for land use are tested by investigating them in more detail while at the same time gauging and acquiring public support. Information and communication technology (ICT) offers promising opportunities for participatory decision-making which should be realised with more firmness.

---

<sup>9</sup>New name: Wageningen University and Research Centre.

- Applied policy-defining research is weakly developed, particularly when testing and investigating applications of the concept of interactive management in real-life situations. On the one hand, this type of research should be given a more solid theoretical foundation as a result of its strategic partnership with fundamental scientific research, while on the other hand it should also be strongly related with real-life situations in countryside innovation where new types of management with respect to knowledge development (joint fact finding) are being tested.
- Research into rural areas at Wageningen Agricultural University (LUW) is below standard. The problem is not only that research capacity is divided between various research institutes and research disciplines, it is also that their quantitative capacities are insufficient to feed efforts made at institutes of applied research to study green land use with inspiring scientific understanding and methodology.

Apart from implementing special development programmes as indicated above, KCW will also need to increase its capacity in the three domains referred to earlier. This will require substantial investments to increase both its capacity and its quality level in the three domains. KCW's board of directors will be primarily responsible for strengthening the knowledge centre. In close consultation with the Ministry of Agriculture, Nature and Fisheries they may develop more specific suggestions to achieve this.

#### **20.4 Regional knowledge and innovation centres for rural development**

The third proposal to diminish existing tensions between required versus available characteristics of current knowledge infrastructure is designed to bridge the gap between knowledge generation and innovation. It is suggested to establish three regional centres which will support rural innovations while testing interactive knowledge generation. The centres will participate in innovation projects and they will constitute links between institutes and universities that are focused on more generic types of knowledge, on the one hand, and the actors with their specific fields of experience and domain-specific knowledge who are involved in specific innovation projects in the countryside, on the other.

It is important that these different types of knowledge and information are available to the centres involved or else can be made available to them through other knowledge institutes. It involves comprehensive (multi-sector), multidisciplinary and design-oriented knowledge that can be quickly implemented while being easily accessible.

Furthermore, the assessment centres should participate in projects that are experimenting with new types of public administration. Joint fact finding will be the key word here to define those experiments and their corresponding processes of developing and exchanging knowledge. As a result, they will also encourage the assessment centres to apply more interactive methods for generating knowledge. Fifty per cent of the financial resources of the assessment centres may be provided by a basic type of subsidy, whereas the remaining fifty per cent may be provided by those rural innovation projects in which the centres will participate.

# 21. Rural Development and the Rural Economist

*Andrew Errington*

## 21.1 Introduction

As we approach the new Millennium the subject of rural development is assuming an increasingly important role in public policy in many Market Industrialised countries. As agricultural economists we are probably most conscious of this in the debates over the reform of the Common Agricultural Policy and the movement of 'rural development' into the mainstream of policy discussions through the Cork Conference of 1996 and into Agenda 2000 the following year. However, it is important to recognise that changes in the agricultural sector form only one aspect of the socio-economic restructuring of rural areas that many countries have experienced in recent decades. Indeed, it is this wider restructuring rather than CAP reform alone that is bringing rural issues closer to the centre of the stage.

Rural development should not therefore be seen simply as a further stage in the gradual evolution of agricultural policy as it seeks to address the needs of pluriactive farmers (or ex-farmers) and their families. In fact it covers a much wider range of issues - social policies to deal with all those experiencing social exclusion as a result of their rural location, land-use planning policies to deal with the competing pressures on rural land, and so on.

These issues are becoming more important and more hotly debated not simply because of structural changes in the agricultural sector. Rather, they are the result of fundamental economic and social restructuring which is linked to changing power relationships within rural areas. Apart from the reduced relative importance of agricultural production (at least in its conventional forms), other important changes affecting our rural areas are:

1. the increasing mobility of the population, arising from increased car ownership and a vigorous public policy of road building and road improvement. This has facilitated counter-urbanisation, in which some of our rural areas have seen a substantial reversal of centuries-old rural-to-urban migration. Rural areas have become increasingly attractive as a place to live, particularly for commuters and retired people who can now experience the benefits of living in what they perceive to be a more attractive location without sacrificing the benefits of urban jobs and facilities (Champion 1981, Robert and Randolph 1983, Long 1994, Green and Meyer 1997).
2. changes in production technologies, the growth of the service sector and the downsizing of many large firms which are now placing greater reliance on the 'outsourcing' of intermediate inputs in preference to their 'in-house' production. This has led to the emergence of more small 'footloose' firms for whom the attractions of a rural location (perceived lower ground rents and access to a pool of compliant low-wage labour as well as the intrinsic attractions of the 'greener' working environment) now outweigh its disadvantages. Together, these trends have given rise to what has been termed the 'second wave' of counterurbanisation as jobs have flowed back into

some rural areas (Newby 1985, Fothergill, Kitson and Monk 1985, Errington 1987, Breheny et al., 1996, NRLO 1998).

With so many different forces giving rise to change and so many different aspects of rural life affected by it, it is not surprising that the term 'rural development' has come to have many different meanings to different people. For example, it is likely to have a quite different meaning to a land-use planner working in the peri-urban fringe than it does to an Agriculture Minister discussing CAP reform in Vienna or to a negotiator putting the case for de-coupled support at the forthcoming WTO round.

## **21.2 Rural development and the rural economist**

In order to develop my argument I therefore need to explain what I mean by the term 'rural development'. I use it to refer to premeditated changes in human activity which seek to use resources within the rural arena to increase human well-being. I am therefore talking about deliberate change which seeks to make better use of all types of rural resource in order to increase the well-being of humanity. It is then a decidedly homocentric view (which I know will not find favour in all quarters) but it is one which emphasises the importance of much more than just Gross Domestic Product per head. For example, in my view those changes in human activity which safeguard or enhance environmental quality and in that way increase human well-being are just as much part of Rural Development as those which provide jobs or increase incomes.

In my use of the term, there is then a prime focus on human well-being. But as the concept of rural development is unpacked, a variety of different groups of people are revealed. Each has a rather different stake in the rural arena and their well-being may therefore be affected by particular changes in the use of rural resources in quite different ways. For example, the introduction of additional workspace units, the construction of new housing, the improvement of day-care facilities for the elderly or changes in farming practice may all have quite different impacts on the well-being of these different groups of stakeholder.

I would identify the main stakeholders as:

- those who own real estate in rural areas, thinking here particularly of the land itself;
- those who live in rural areas;
- those who work or who run businesses in rural areas;
- those who visit rural areas for recreation;

and of course there are:

- those who will never own real estate in, live in, work in, run a business in or perhaps even visit rural areas but who read books about them or see films or TV documentaries about them, and therefore derive feelings of well-being from the reassurance that the countryside will continue to exist in some particular form.

Finally, we must not forget:

- those not yet born who will at some stage of their lives fall into one of the above categories.

This long list encapsulates the very essence of the rural problem in many Market Industrialised countries today. Our rural areas have come to play so many different roles for so many different groups in Society that there is a substantial problem in achieving balance between the interests of these different stakeholders.

In the political debate that surrounds policy formulation different weights are implicitly ascribed to the interests of these different stakeholders. For example, England's Rural White Paper (DoE/MAFF 1995) with its separate chapters on 'Working in the Countryside' and 'Living in the Countryside' perhaps emphasises the interests of these two groups as against those who merely come to the countryside as visitors. The Bruntland report (1987) gives a rather different emphasis with its concern that development 'meets the needs of the present without compromising the ability of future generations to meet their own needs', so asserting the interests of the final group listed above. While the assignment of weights is fundamentally a political process involving debate, mediation and struggle for power, the role of the academic researcher is primarily to inform and thus raise the level of debate in the decision-making process.

The economist, for example, may be called upon to help with the ex-ante or ex-post evaluation of rural development initiatives in terms of their impact on the well-being of these various groups. They may also be asked to help predict the likely behaviour of the various actors concerned and to place values on the resulting costs and benefits, both public and private. But the main 'project' (Gaarder 1996) of the Rural Economist is to understand the production and consumption of goods and services within the rural arena and the operation of the markets through which they are traded. The primary concerns are therefore with the familiar features of the economic 'game' - production, consumption and exchange. However, it is the distinctive characteristics of the rural arena that distinguishes rural economics from other parts of the discipline. The most important of these characteristics are:

1. the wider geographical dispersion of consumers and producers compared with urban areas. This generally gives rise to higher transactions costs<sup>10</sup> and higher transport costs which are the key feature of markets in the rural arena and a prime driving force behind historic trends towards increased urbanisation. Of course, this concern with the spatial pattern of transactions draws the rural economist close to the transport economist and the geographer.
2. the prevalence of small firms (North and Smallbone 1993) often operating as family businesses (Gasson and Errington 1993). While the family base may in some respects be a source of competitive advantage (Errington and Gasson 1994), these firms experience numerous difficulties by virtue of their size, particularly in terms of their market power, their ability to acquire new skills and to develop and adopt new

---

<sup>10</sup> The concept of transactions costs has assumed considerable importance in economic analysis over the past twenty years (see, for example, Williamson 1979). It refers to all the costs associated with making economic transactions - the costs of obtaining information about the price and availability of goods and services, for example, or the costs of negotiating and enforcing contracts.

technologies and working practices (Keeble et al., 1992). (Incidentally, this is why innovative mechanisms fostering technology transfer to Small, Medium and Micro Enterprises is so important to our rural areas.)

3. the presence of a wide variety of public goods (flora, fauna, landscapes, water courses, groundwater aquifers and so on) to which many of the stakeholders listed above appear to attach very high values, particularly in relatively densely populated countries such as the UK and the Netherlands (NRLO 1998). This implies that 'market failure' (where private-sector economic activity may, perhaps unwittingly, reduce human well-being despite increasing money incomes and GDP per head) is likely to be particularly prevalent. Our rural areas are full of 'market failure' just waiting to happen. The investigation of these issues draws the rural economist closer to the natural scientist and especially the ecologist and the environmental scientist. Indeed, as this and earlier comments about sociologists and geographers suggest, rural development is a field ripe for multidisciplinary research.

In seeking to understand the economic game in this arena, and to predict or modify its outcome, the rural economist tries to discern, and ultimately explain, systematic patterns of behaviour among the key players. There is therefore an interest in the behaviour of consumers and producers as well as pressure groups and the agents of government. As in other arenas, the game has become increasingly complicated in recent years with the introduction of a variety of new players such as QUANGOs (Quasi Non-Governmental Organisations), and 'third sector' agents such as Community Regeneration Groups, Community Development Trusts and so on whose behaviour (and potential contribution to Rural Development) is as yet only poorly understood. As the authors of a recent Dutch report have commented: 'The sectarian organisation of society has disappeared. New actors are emerging, including environmentalist and conservationist organisations which are developing into independent partners at negotiating tables' (NRLO 1998:16).

It is not surprising that the focus of many European agricultural economists has widened to encompass the rural arena as a whole. In the first place, agricultural adjustment following CAP reform inevitably involves the transfer of some geographically fixed resources (including farmland, farm buildings and perhaps even farm family labour) into other forms of economic activity within the rural arena. This will have important implications for firms and families in the agricultural sector. Second, it may be that an understanding of the farm family business is relevant to an understanding of other family businesses in rural areas. Finally, there is a strong interest in the role of farmers in the production (and destruction) of rural public goods since most rural land is currently controlled by farmers. As the programmes for many recent conferences demonstrate, the most common route into the rural arena for the agricultural economist at present appears to be through environmental economics. However, the emerging rural development research agenda is very much wider than this, encompassing as it does the production, consumption and exchange of a wide range of public and private goods within the rural arena. My own research interests lie primarily with rural employment and I will use this area of work to illustrate some of the ways in which the emerging rural development research agenda stems from the three distinctive characteristics of the rural arena noted above.

### 21.3 Rural employment: the peri-urban fringe

We are continually reminded that rural areas are not homogeneous (Errington 1990, Hodge and Monk 1991, Harrison 1992, Von Meyer 1997, Irmen 1997) and it is therefore likely that policy issues reflected in the rural development research agenda will vary between the remoter rural areas and the 'urban field' which is the primary focus of this seminar. As I have commented elsewhere (Errington 1994) these 'peri-urban' areas received very little attention in the European Commission's Future of Rural Society (EC 1988). Characterised by what the authors of that document termed the 'first standard problem' i.e. that of rural areas facing 'the pressure of modern development', they were seen primarily as a playground for the inhabitants of neighbouring cities:

'The crux of this problem is to keep the countryside intact from an environmental point of view, not only so that it can fulfil its function as an ecological buffer and source of natural reproduction, but also to provide it with new and lasting scope for development as an area providing recreation and leisure for the city-dwellers.' (The Future of Rural Society: 32)

In fact, the issues of social exclusion and employment creation within the peri-urban fringe may be rather more important than the EC's analysis suggests although the rationale for public interventions may be somewhat different here than they are in the remoter rural areas (Errington 1994). I have examined elsewhere (Errington 1997) the seven strands in the case for public-sector interventions to foster employment creation in rural areas and it is possible to review the relevance of each strand to particular types of rural area. Where the peri-urban fringe is concerned two strands are likely to be especially important, namely Strand 4 Reducing the congestion costs of 'over-development' and Strand 7 Maintaining 'balanced' rural communities (The seven strands are described in Appendix 1).

Recent research at the University of Plymouth touches on these matters. Our Market Towns Research Group within the Seale-Hayne Faculty is examining the evolving role of small towns in the rural economy. Often tracing their origins back to Medieval times with the granting of a royal charter to hold a weekly market and annual fayre, many of these towns gradually acquired additional functions over the centuries. As systems of public administration became more complex and the national government sought greater control, the towns often became the focus for the administrative functions of both central and local Government. They also acquired important functions in the social life of the locality - not merely as the venue for fayres and festivals but also as the natural location for schools, hospitals and almshouses - all those charitable institutions established to deal with the contemporary problems of social exclusion.

By the 19th Century, the Agricultural and Industrial Revolutions had added another important function. With the drift from the land, these towns often became important centres of employment, not just in the shops and social facilities that serviced the town and its surrounding hinterland, but in a range of other businesses that sold products to the national or even international market. The mid-20th Century added yet another important function - that of containing housing.

In England, the 1947 Town and Country Planning Act embodied the prevailing consensus, one that Peter Hall and his colleagues so memorably characterised as 'the containment of urban England' (Hall et al., 1973). Towns and Cities were seen to be the most appropriate repository of new housing if we were to avoid the countryside being converted into drab uniform suburbia through a process of urban sprawl along existing road networks. Over the past decades many of these functions have been eroded, with some towns today retaining only their 'containment' function. Meanwhile, new settlements are being created which serve only this function, acting as 'dormitories' to larger neighbouring settlements. Our current research is exploring the functions of small towns in both remote rural and peri-urban areas. We are particularly interested to measure the degree of economic integration between firms and households within the towns and those in the surrounding villages and countryside (Courtney et al., 1998). Clearly, the findings of this work will have important implications for the targeting of rural development funding as well as for land-use planning matters relating to both existing and new settlements in rural areas.

Our general approach is to build up a picture of the place of small towns in the rural economy through a series of case studies of particular localities which we encourage others to replicate, much in the same way that the Canadian Rural Restructuring Foundation has developed its own national project on The New Rural Economy (CRRF 1997). In view of the heterogeneity of rural areas and the resource requirements of this type of detailed empirical study an incremental approach has some significant advantages. It also fits well with 'bottom-up' approaches to rural development initiatives within European and national funding regimes. For each town that we study a summary report is made available to a range of groups within the local community who can use the information it contains as the basis for developing their own initiatives for the economic and social regeneration of their locality.

Our baseline reports on Lambourn (Errington 1994), Bude, Liskeard and now Holsworthy (Dawson and Errington 1998a, 1998b and 1998c) each cover several facets of each locality. First, they establish the underlying demographic profile of the town and its immediate hinterland (in terms of age, origin, employment status and so on). They then look at where the resident population work and how they get to work; the use they make of local facilities (including the shops) and what they think of them. Finally, we report on the local business community - what business they are in, who they employ and how they see the town, its future and their own. Each of our surveys covers the town itself and the smaller settlements and isolated households in the surrounding area. We are usually gathering information from about 100 businesses, 200 households and perhaps 350 residents to give us a pen-portrait of the town.

There are many facets to our own subsequent analysis of this data, but of particular interest to us at present are the week-long travel-logs completed by our respondents. Each keeps a log recording up to three journeys per day out of the settlement in which they live. They report not only the time and destination of the journey but its main purpose - work, education, shopping, medical, social/recreational and so on. This data is important for two reasons. In the first place, we could liken the traffic flows revealed by these travel logs to the flow of blood around the human body. It seems likely that particular patterns of flow may be indicative of greater or lesser dysfunctionality. For example, where most residents



travel out of the area regularly for employment, shopping and social activities it is unlikely that the town can be said to perform any but its containment function.

A second reason why these data are so interesting stems from the debate over transport policy and particularly the environmental and social costs associated with our passion for the private car. Data from our Baseline studies can help build up a quantified model of rural transport use which can be helpful in exploring a number of alternative options for rural development.

I shall illustrate this point by looking at some of the data emerging from the Bude, Liskeard and Lambourn studies. Bude is a coastal town in a 'remote' rural area of south-west England, heavily reliant on tourism. From a national perspective Liskeard is also in a 'remote' rural area of south-west England, but it has much better transport links including a mainline railway station, while Lambourn is a small town in 'accessible' south-east England, close to a major Motorway - the M4.

Table 21.1 *Employment patterns in the three survey areas*

|   | Lambourn<br>study area | Liskeard<br>study area | Bude<br>study area |
|---|------------------------|------------------------|--------------------|
| Numbers living in the survey area (aged 16 or over) | 5,080                  | 14,370                 | 8,530              |
| Numbers in employment (full- or part-time)          | 3,040                  | 7,970                  | 3,650              |
| % in employment                                     | 59.8%                  | 55.5%                  | 42.8% a)           |
| Number of jobs in the survey area                   | 2,590                  | 5,900                  | 3,210              |
| Numbers living and working in survey area           | 1,660                  | 3,800                  | 2,600              |
| Numbers commuting in                                | 930                    | 2,100                  | 610                |
| as % jobs in the area                               | 35.9%                  | 35.6%                  | 19.0%              |
| Numbers commuting out                               | 1,380                  | 4,170                  | 1,050              |
| as % those living in the area                       | 45.4%                  | 52.3%                  | 28.8%              |

a) The relatively low proportion in employment in Bude is largely attributable to the age-distribution of the population, with almost one-third of respondents to the household survey reporting that they have retired.  
Source: Market Towns Surveys.

Data from the household and business surveys allows us to construct a picture of the employment patterns in each locality and to distinguish commuter flows into and out of each of the survey areas. While there are some important differences between the areas related to settlement patterns and road networks, a number of points are clear and these are summarised in table 21.1. In the first place, the table shows that in all three areas a good deal of commuting is going on. In each case there is a net deficit of jobs in the locality, implying net commuting flows outwards from the survey areas of 450 (equivalent to 15% of the workforce) from the Lambourn study area; 2,070 (26%) from the Liskeard study area; and 440 (12%) from the Bude area. However, the gross commuting flows are very much greater than this since all three areas experience both outward and inward commuting on a daily basis. Gross flows estimated from our surveys are 2,310 for Lambourn; 6,270 for Liskeard and 1,660 for Bude, in each case three or four times the orders of magnitude of the net flows. Bude is significantly more self-contained in

employment terms than either Lambourn or Liskeard, almost half of whose employed residents commute out of the area to work each day.

## 21.4 Travel Patterns

Not surprisingly these characteristics of the local employment structure are reflected in the travel patterns emerging from the analysis of the weekly travel logs. We have discussed some of these findings in detail elsewhere (Cullinane et al., 1998), concentrating on the number and main purpose of journeys as well as mode of transport. Table 21.2 draws together much of this analysis, converting it into a common denominator - the number of car-miles driven by the residents of the three survey areas, based on their completed travel diaries. It excludes all journeys as a car passenger or by other modes of transport. In order to facilitate comparison between the three areas whose populations differed in size, it is expressed in miles per week per resident aged 16 or more.

Table 21.2 Car-miles driven in the survey week: Lambourn, Bude and Liskeard

|  | Lambourn<br>study area | Liskeard<br>study area | Bude<br>study area |
|--|------------------------|------------------------|--------------------|
| Car-miles driven in survey week        | 408,299                | 376,313                | 747,513            |
| Estimated population (aged 16 or more) | 5,080                  | 8,530                  | 14,370             |
| Total car-miles per person per week    | 80.4                   | 44.1                   | 52.0               |
| Main purpose of which:                 |                        |                        |                    |
| Work                                   | 31.0                   | 18.1                   | 24.8               |
| School/education/training              | 1.0                    | 1.2                    | 3.3                |
| Shopping                               | 11.1                   | 7.4                    | 4.9                |
| Medical/care                           | 3.0                    | 2.2                    | 0.9                |
| Social/recreational                    | 24.3                   | 10.3                   | 13.6               |
| Building Society/Bank                  | 2.3                    | 0.2                    | 0.3                |
| Other                                  | 7.7                    | 4.7                    | 4.3                |

Source: Market Towns Surveys.

The table shows that during the survey week the residents of the Lambourn Valley, in an 'accessible' rural area, travelled nearly twice the number of car-miles as the residents of the 'remote' rural area of Bude. While those from Liskeard travelled somewhat further than those from Bude, the distance was still substantially smaller than that travelled by the Lambourn Valley residents. The largest differences between Lambourn on the one hand and Bude and Liskeard on the other concern journeys whose main purpose relates to employment and to social/recreational activities. The travel patterns for Liskeard residents come closer to those of Lambourn where work is concerned, reflecting the higher proportion of Liskeard residents in employment and the higher proportion of commuters. The substantial difference between Lambourn and the two other towns where travel connected with social and recreational activities is concerned is striking.

Clearly, because of the substantial socio-economic and demographic differences between the study areas further analysis is required to compare the travel patterns of similar socio-economic groups in the three areas. The greater preponderance of commuters in the Lambourn and Liskeard areas is only one such factor. However, table 2 does provide a basis for estimating the overall magnitude of the potential gains from the decentralisation of employment from congested metropolitan centres to small towns such as Lambourn or Liskeard. Many residents working locally still take a car to work, but if the Lambourn commuters adopted the travel-to-work patterns of Lambourn residents working in Lambourn itself, there would be an average reduction of 36 miles per person, or 24 per cent of their present weekly travel. If the Liskeard commuters adopted the travel-to-work patterns of Liskeard residents working in the town, there would be an average reduction of 60 miles per person, or 44 per cent of their present weekly travel.

While this type of analysis makes a large number of over-simplistic assumptions it does begin to quantify the significant potential gains to be achieved by relocating jobs from large urban centres to small towns and the countryside. As I argued earlier, the case for rural employment, at least in the peri-urban fringe, rests as much on the desire to maintain more 'balanced' communities and to reduce dependence on an unsustainable 'commuting lifestyle' as it does on providing jobs for the unemployed.

There are four main ways in which working patterns might become more decentralised:

1. some commuters might spend a significant proportion of their week working/teleworking from home;
2. some existing firms might move out from the more congested urban centres into the surrounding countryside;
3. some of the firms already located within the countryside might expand;
4. some of those presently commuting to work may opt for self-employment and establish their own business within the countryside.

There are a number of innovations, some already in existence, which may help to achieve this goal. One is the small business support centre exemplified by the Lambourn Bake House while the other is what I have called the '21st Century Steading'. Both would enable more people to work from home for at least part of the week and both would aid the establishment of small businesses within rural areas thus reducing the need to commute.

In 1995, the Lambourn Valley Trade and Tourism Association established the Lambourn Bake House. Initially funded by the public sector rural and enterprise agencies in partnership with local government (County and District councils), the Bake House aims to meet a range of community and business needs. Located in what was, many years ago, the village bakery in Market Place, this rural business centre provides many of the facilities which would be available in a well-appointed modern office environment. Users have access to good quality computing facilities with Internet connections as well as photocopying, FAX, laser-printing and document binding. Secretarial services are available at an hourly rate and there is even a small meeting room for hire (with OHP, whiteboard and video equipment) where local business-people can meet with their clients.

But the Bake House also forms the focus for a wide range of support functions within the village, not merely providing the physical infrastructure required by teleworkers and

small local businesses. For example, it also acts as a community information centre. There is a link with the Job Centre at Newbury and job details faxed to the Bake House to be pinned up on its notice-board. A limited amount of tourist and visitor information is available in the Bake House and local craftspeople have the opportunity to display some of their wares. Local councillors run regular surgeries from its meeting room as does the local secretary of the Stable Lads Association, a Trades Union for local employees. It has even been suggested that visits to the Bake House could provide an important substitute for those teleworkers and homeworkers who miss the social interaction that comes with employment in a larger organisation. The 21st Century Steading seeks to provide appropriate workspace in rural areas for those who seek physical separation between home and work but who no longer wish to spend a large part of their day commuting. As our work in Lambourn showed, the total amount of workspace required by many of the newer service sector businesses is quite small, averaging 100 sq. ft. (10 m<sup>2</sup>) per person (full-time equivalent).

Even though the space required in individual units is small, it is important that any new rural workspace is designed to fit the character of the area. The existing tension between environmental conservation and economic development may be less severe where these small-scale and information-based businesses are concerned but the tension will remain in rural England until the tradition of 'development by exception' is replaced by one of 'development by design'. One useful focus for this type of development might be the old agricultural concept of the 'Steading' which still characterises the rural landscape of many parts of northern England. In essence, the farm 'Steading' was a small business centre undertaking a range of different economic activities. Much smaller than a hamlet, it comprised a cluster of both residential and work-related buildings. Far from detracting from landscape quality, the 'Steadings' dotted along the upland valley, are often regarded as one of its most attractive features and an integral part of its character. Provided they were developed within suitable design guidelines, the modern counterparts of the farm Steading could become an equally valued feature of the English rural scene. Much would, of course, depend on the quality and acceptability of the final design of such developments but the re-invention of the Steading may provide one means of resolving the tensions surrounding rural economic development and the conflicting interests of the various stakeholders described earlier in this paper.

## **21.5 Conclusions**

This paper has argued that the field of rural development research is becoming increasingly important in Market Industrialised countries because of the fundamental economic and social restructuring of their rural areas. It is a distinctive research domain that is defined not only by its policy-related orientation but by the distinctive characteristics of rural areas - the wider geographical dispersion of producers and consumers, the prevalence of small (often family) firms and the presence of a wide variety of public goods. While it is particularly well-suited to multidisciplinary research, even within the economics discipline it can benefit from the collaboration of agricultural, environmental, regional and transport economists. Its main goal is to answer some important and increasingly urgent questions

about how scarce rural resources facing competing and often simultaneous uses can be used to maximise human welfare, taking into account the needs and interests of a widening range of increasingly vocal stake-holders.

## References

Breheeny, M., Hart, D. and Errington, A.J., *The Newbury Connection: An Economic Survey of West Berkshire*. The University of Reading, Report to Newbury District Council pp. 89, 1996.

Bruntland, H., *Our Common Future, World Commission on Environment and Development*. Oxford University Press, 1987.

Champion, A.G., 'Population trends in rural Britain'. In: *Population Trends* 26: pp. 20-24, 1981.

Courtney, P., Errington, A.J. and Cullinane, S., *The spatial pattern of rural economic transactions: The case of the English market town*. Paper presented to the annual conference of the Agricultural Economics Society, The University of Reading 25-28 March 1998.

CRRF, *Understanding The New Rural Economy: Choices and Options. Research Business Plan*. CRRF, Rural Development Institute, Brandon, Manitoba, Canada, 1997.

Cullinane, S.L., Errington, A.J., Dawson, J. and Courtney, P., *Travel Patterns of Rural Residents and the Effect on the Environment*. Paper Presented to 8th World Conference on Transport Research, 12-17 July 1998, Antwerp, Belgium, 1998.

Dawson, J., and Errington, A.J., *The Bude Study: A Baseline Study of the Bude Area*. Summary Report, Seale-Hayne Faculty, The University of Plymouth, ISBN 1-84102-007-9, 17 pages, 1998 (a).

Dawson, J., and Errington, A.J., *The Liskeard Study: A Baseline Study of the Liskeard Area*. Summary Report, Seale-Hayne Faculty, The University of Plymouth, ISBN 1-84102-006-0, 17 pages, 1998 (b).

Dawson, J., and Errington, A.J., *The Holsworthy Study: A Baseline Study of the Holsworthy Area*. Summary Report, Seale-Hayne Faculty, The University of Plymouth, ISBN 1-84102-012-5, 17 pages, 1998 (c).

DoE/MAFF, *Rural England: A Nation Committed to a Living Countryside Cmnd 3016*. HMSO, London, 1995.

EC, *The Future of Rural Society, COM (88) 501 final/2*. The European Commission, Brussels, 1998.

Errington, A.J., *Rural employment trends and issues in Market Industrialised Countries*. World Employment Programme Research Working Paper WEP 10-6/WP90, Geneva: International Labour Office, ISBN 92 2 106336 4, 83 pp., 1987.

Errington, A.J., 'Rural Employment in England: Some data sources and their use'. In: *Journal of Agricultural Economics* 41, pp. 47-61, 1990.

Errington, A.J., 'The Peri-urban Fringe: Europe's Forgotten Rural Areas'. In: *Journal of Rural Studies* 10, pp. 367-376, 1994.

Errington, A.J., 'Rural Employment Issues in the Peri-urban Fringe'. In: Bollman, R.D. and Bryden, J. (Eds.) *Rural Employment: An International Perspective*. Wallingford: CAB International, ISBN 0 85199 198 X, 205-224, 1997.

Errington, A.J. and Gasson, R., 'Labour use in the farm family business'. In: *Sociologia Ruralis* 34, pp. 293-307, 1994.

Fothergill, S., Kitson, M. and Monk, S., *Urban industrial decline: The causes of the urban-rural contrast in manufacturing employment change*. London: HMSO, 1985.

Gaarder, J., *Sophie's world: a novel about the history of philosophy*. London: Phoenix House ISBN 1857992911, 1996.

Gasson, R. and Errington, A.J., *The Farm Family Business* ISBN 0 85198 859 8, Wallingford: CAB International, 304 pp., 1993.

Green, M.B. and Meyer, S.P., 'Occupational Stratification of Rural Commuting'. In: Bollman, R.D. and Bryden, J. (Eds.) *Rural Employment: An International Perspective*, Wallingford: CAB International, ISBN 0 85199 198 X, 225-238, 1997.

Hall, P., Thomas, R., Gracey, H. and Drewett, R., *The Containment of Urban England*. London: George Allen and Unwin, 1973.

Harrison, L.E., *Agriculture's Role in Rural Employment, unpublished PhD thesis*. The University of Reading, UK, 1992.

Hodge, I and Monk, K., *In search of a rural economy, Cambridge*. University of Cambridge Department of Land Economy Monograph 20, 1991.

Irmen, E., 'Employment and population dynamics in OECD countries: An intraregional approach'. In: Bollman, R.D. and Bryden, J. (Eds.) *Rural Employment: An International Perspective*. Wallingford: CAB International, ISBN 0 85199 198 X, 22-35, 1997.

Keeble, D., Tyler, P., Broom, G. and Lewis, J., *Business Success in the Countryside*. London: HMSO, 1992.

Long, R., 'Rural experiences in the USA'. In: Copus, A.K. and Mann, P.J. (Eds.) *Rural Realities: Trends and Choices*. Aberdeen. Aberdeen School of Agriculture, Economics Division 195-198, 1994.

Newby, H., *Rural communities and new technology Langholm*. Dumfriesshire: The Arkleton Trust, 1985.

North, D. and Smallbone, D., *Small Business in Rural Areas*. Rural Development Commission Strategy Review Topic Paper 2, Salisbury: RDC, 1993.

NRLO, *Rural areas put on the map. Knowledge and innovation priorities. Aspirations for the 21st Century*. NRLO Report 98/19E. The Hague, National Council for Agricultural Research, 1998.

Robert, S. and Randolph, W.G., 'Beyond decentralisation: The evolution of population distribution in England and Wales 1961-1981'. In: *Geoforum* 14, pp. 75-102, 1983.

Von Meyer, H., 'Rural employment in OECD countries: Structure and dynamics of regional labour markets'. In: Bollman, R.D. and Bryden, J. (Eds.) *Rural Employment: An International Perspective*. Wallingford: CAB International, ISBN 0 85199 198 X, 3-21, 1997.

Williamson, O.E., 'Transaction cost economics: the governance of contractual relations'. In: *Journal of Law and Economics* 22, pp. 233-62, 1979.



# Appendix 1 The Case for Rural Employment

Extract from:

Errington, A.J., 'Rural Employment Issues in the Peri-urban Fringe'. In: Bollman, R.D. and Bryden, J. (Eds.) *Rural Employment: An International Perspective*. Wallingford: CAB International, ISBN 0 85199 198 X, 206-211, 1997.

## *The case for rural employment*

The general case for state interventions to maintain or develop employment opportunities in rural areas rests on the usual thesis of market failure, and in particular the failure of individuals and entrepreneurs to take into account a variety of externalities in their decision-making. Historically, the prime concern of government (arising from the major population movements from village to town and from economic periphery to industrial core) has been the perceived problem of depopulation. Indeed, at a European level, such considerations still appear to be the main driving force behind regional and structural policies. However, the reversal of some of these population flows and the discovery of 'counterurbanisation' in the 1970s and '80s (Champion 1981, Robert and Randolph 1983) have made it necessary to modify this argument if the case for rural employment is to be sustained. Increased human longevity and the growth of both private and state pension schemes mean that rural employment opportunities are no longer the necessary prerequisite for an area to remain, or indeed become, populated. The retirement village in England or even the retirement State in the USA (Long 1994) are both striking testimony to this fact. There are perhaps seven more or less tenable lines of argument in favour of public support for rural employment, each of which has potential interest for the economist since it concerns the allocation of scarce resources and necessitates the measurement of social costs and benefits.

### *1. The Maintenance of Cultural Diversity*

This argument stresses the need to maintain the level of population in remoter rural areas in order to conserve Society's cultural diversity. Implicit values are assigned to the continued existence of particular cultures and the distinctive features which they embody (such as language, music, dance or cuisine). These are analogous to the particular landscapes, flora and fauna whose value some of our colleagues are currently seeking to measure (Brown et al., 1994, Hutchinson et al., 1995). In the context of rural employment policies, the central issue here is not only the value to society of continuing cultural diversity, but the extent to which this diversity is dependent of particular forms of employment in occupations such as fishing, farming or mining. In this context, Hughes and Midmore (1990) have provided some interesting evidence on the relationship between the prosperity of farming and the persistence of the Welsh Language.

## 2. *The Strategic Argument*

The need to keep remoter frontier areas populated for defensive purposes provides another strand of the case for rural employment in some regions. It has, for example, been suggested that one of the prime objectives of state support to the settlement of some of the remoter areas of Northern Australia was to secure national borders against possible incursions from southern Asia. Within Europe, it seems possible that the maintenance of population in the mountainous areas along the Franco-German border might have had a similar objective earlier this century. Clearly, the net social benefit of investment in rural employment in pursuit of these objectives is likely to be influenced substantially by geopolitical change and changes in military technology.

## 3. *Making use of existing infrastructure*

Where resources have previously been invested by society in local infrastructure, there may be an argument that the maintenance of a population sufficient to make adequate use of that infrastructure ensures that such investments achieve an adequate return and are not 'wasted'. Clearly, this argument is strongest where fixed investments such as those in land improvements, roads, railways, mains services, schools and public-sector housing are concerned. However, it will be recognised that not all of these resources require an employed population to make use of them - the existence of a resident population (which may be retired or commuting to work elsewhere) may be quite sufficient. Moreover, there are supplementary questions to be addressed about the level of current maintenance costs where most of these investments are concerned.

## 4. *Reducing the congestion costs of 'over-development'*

While the 19th Century impetus towards urban development came from the economies of agglomeration achieved by manufacturing firms heavily reliant on new roads, canals and railways for the transport of their bulky raw materials, intermediate goods and finished products, by the late 20th Century these factors are much less important to economic development. The infrastructure outside the main urban centres has greatly improved and an increasing proportion of producer and consumer services can now be obtained through the national (and indeed international) telecommunications network. At the same time, significant costs arise from urban congestion, such as declining air quality, rising levels of noise pollution and the lengthening travel times faced by commuters stuck in traffic jams. Since these are borne by individuals rather than firms, the location decisions of economically rational entrepreneurs can lead to significant welfare losses among the rest of the population. In these circumstances it is quite conceivable that the induced relocation of some forms of economic activity to rural areas might lead to a net increase in welfare both in the congested urban areas and at their new rural location.

## 5. *Maintaining an attractive rural environment*

The rural environment in the more densely populated Market Industrialised countries is largely man-made - the product of generations of economic activity, particularly in farming and forestry. The population at large, urban as well as rural, derives some benefit from the appearance of the countryside, particularly (but not exclusively) in as far as they are able to use it for recreational purposes. The impact of the conservation lobby in the UK during the 1980s is striking testament to the perceived importance of the countryside's appearance to at least one articulate and influential segment of society. Though there is debate over the extent to which particular agricultural practices have a beneficial rather than a detrimental effect on the appearance of the countryside, all protagonists share the view that its appearance is an important by-product of those economic activities which are extensive users of land. With appropriate safeguards, certain types of rural economic activity can thus generate significant external economies in the form of an attractive countryside. A maintained or improved appearance of the countryside is thus one of the benefits which must be weighed when measuring the social benefits of rural employment creation though in this case it is likely that such benefits accrue only to certain forms of employment, most notably in agriculture, forestry and conservation.

## 6. *Removing social inequalities*

In a period when rural depopulation was regarded as the central problem facing rural areas, the maintenance or expansion of rural employment was seen as a vital measure to stem the depopulation tide by providing jobs for the rural poor and thus reducing income disparities between urban and rural areas. By the 1980s the disparity in average incomes between rural and urban areas in many Market Industrialised countries has narrowed and may even have been reversed. However, as McLaughlin (1985) and Cloke et al. (1994) have pointed out there are still significant pockets of deprivation in rural areas. Indeed, the growing disparity of incomes within rural areas is regarded by some as their most pressing social problem (Errington 1995). The provision of suitable employment opportunities in rural areas can certainly contribute to the solution of this problem, but the employment opportunities must be of a type which suit the needs and abilities of those rural residents who are currently unemployed. Once again, the social benefit accruing to employment generation is a function not so much of the number as of the type of jobs provided.

## 7. *Maintaining 'balanced' rural communities*

The maintenance of 'balanced rural communities' is another theme central to the arguments for generating employment in the rural areas of Market Industrialised countries. In part this appears to be based on a deeply-ingrained view that rural communities are in some respects fundamentally different from urban communities (and is thus a facet of the 'cultural diversity' argument referred to earlier). Not only do rural communities provide a reservoir of alternative cultures, characteristics and values that make a vital contribution to the richness of the nation's social fabric and economic life but the resulting diversity might

even contribute to our ability to survive as a species in the face of evolutionary pressures (Allanson et al., 1994).

This belief has sometimes been translated into the policy objective of maintaining 'balanced rural communities', containing inhabitants varied in age, economic and social status. In order to obtain this balance, some inhabitants must be in employment - a rural area populated exclusively by retired people or by commuters would not be 'balanced' in this sense. However, if this line of argument is to be used in support of the case for rural employment it is necessary to identify whence the distinctive characteristics of the inhabitants of rural communities derive. Certainly, the spread of mass culture, facilitated by the mass media has eliminated many of the historic differences in life-style between rural and urban areas in the UK. It may be that the distinctions which do remain rest on particular types of occupation. For example, the resourcefulness, independence, resilience and physical toughness most closely associated in the popular imagination with outdoor work (in farm, forestry plantation or conservation area) may be particularly important. Indeed, it is conceivable that these characteristics of the rural population were regarded as particularly important to those countries (such as the USA and UK) with no large regular standing army. In times of war, the strong and healthy farm-hands would prove better conscripts than the debilitated factory worker ground down through years of urban toil. Government reports on the comparative health of the rural and urban working class at the time of the Boer War and First World War give some support to this hypothesis. But if this type of argument still underlies the case for rural employment, it must again be recognised again that it is not rural employment per se but particular forms of rural employment that are being valued in this way.

More recently, the case for achieving more balanced rural communities has been supported by the group preparing the Rural Community Strategy for Berkshire (CCB 1994) but using a rather different line of argument. The Strategy document explains (CCB 1994:15) that the concept of balanced communities 'implies both a diverse social and economic mix in rural settlements (in terms of age, incomes, occupations, etcetera) and a range of activities within them (villages which contain services and appropriate employment opportunities for local people, as well as housing)'. It goes on to argue that the encouragement of more balanced rural communities is a desirable goal because:

- it can contribute much to the intrinsic character and vitality of rural life;
- an appropriate range of homes, workplaces and services in rural areas enhances the ability of local people to continue living in the countryside, and is therefore important for the retention of community ties;
- the presence of various social groups and of rural employment (sic) can provide valuable patronage for local services (which are themselves an important lifeline for the less mobile who live in rural settlements);
- a 'balanced community' provides opportunities for communal self-help in the provision of both services and social care;
- the existence of appropriate employment opportunities within rural areas generates wealth to help maintain the countryside, and can help reduce commuting to jobs elsewhere (and the energy consumption, pollution and social costs which that entails);

- a range of jobs within rural areas can also help reduce the vulnerability of the rural economy to structural decline within particular industries (such as falling employment within agriculture and related businesses).

While some of these points merely reflect those strands in the case for rural employment already covered in this paper (e.g. 'cultural diversity', 'attractive rural environment' and 'urban congestion') others add important new points to the argument. For example, the authors of the Rural Community Strategy for Berkshire assume that the presence of rural employment increases the patronage of local services and increases the opportunity for communal self-help. As the state withdraws from some areas of welfare provision and emphasises programmes such as 'Care in the Community' an adequately balanced population becomes even more essential to provide support to the elderly and disabled in rural areas.

These, then, appear to be the main strands in the case for rural employment. Each rests on assumptions that need to be tested and each suggests a range of different criteria against which policy instruments designed to maintain or promote rural employment should be assessed. However, in view of the heterogeneity of rural areas, we should recognise that some strands of the argument will have more relevance than others in any particular rural area.

## Appendix 2 Participants List

Emmy Bolsius  
National Spatial Planning Agency  
Directorate of Research and Plan Development  
Rijnstraat 8  
P.O. Box 30940  
2500 GX The Hague  
The Netherlands  
E-mail: emmy.bolsius@rop.rpd.minvrom.nl

Marien Borgstein  
Agricultural Economics Research Institute (LEI-DLO)  
Burgemeester Patijnlaan 19  
P.O.Box 29703  
2502 LS The Hague  
The Netherlands  
E-mail: m.h.borgstein@lei.wag-ur.nl

Ting Fa Margherita Chang  
University of Udine  
Biologia ed Economia Agroindustriale  
Via delle scienze 208  
33100 UdineI  
Italy  
E-mail: amae@dbea.uniud.it

Berien Elbersen  
SC-DLO  
P.O.Box 125  
6700 AC Wageningen  
The Netherlands  
E-mail: elbersen@alterra.wag-ur.nl

Andrew Errington  
The University of Plymouth  
Dept. of Land Use and Rural Management  
Research Chair in Rural Development  
Seale-Hayne Campus  
Newton Abbot  
Devon TQ12 6NQ  
England  
E-mail: aerrington@plymouth.ac.uk

Rhys Evans  
School for Policy Studies  
Rodney Lodge, Grange Rd.  
Clifton, Bristol  
UK  
E-mail:rhys.evans@bristol.ac.uk

André Fleury  
ENSP  
Laboratoire de Recherches  
4, rue Hardy  
RP 941  
78009 Versailles Cedex  
France  
E-mail: vers-ensp-apu@calvanet.calvacom.fr

Roland Goetgeluk  
RIVM  
P.O.Box 1  
3720 BA Bilthoven  
The Netherlands  
E-mail: roland.goetgeluk@rivm.nl

Tialda Haartsen  
University of Groningen  
Faculty of Spatial Science  
P.O. Box 800  
9700 AV Groningen  
The Netherlands  
E-mail:t.haartsen@frw.rug.nl

Hans Hetsen  
NRLO  
P.O.Box 20401  
2500 EK The Hague  
The Netherlands  
E-mail: Hans.Hetsen@Users.RPV.WAU.NL

Hans Hillebrand  
Agricultural Economics Research Institute (LEI-DLO)  
Burgemeester Patijnlaan 19  
P.O. Box 29703  
2502 LS The Hague  
The Netherlands  
E-mail: [j.h.hillebrand@lei.wag-ur.nl](mailto:j.h.hillebrand@lei.wag-ur.nl)

Arend Ligtenberg  
Agricultural Economics Research Institute (LEI-DLO)  
Burgemeester Patijnlaan 19  
P.O. Box 29703  
2502 LS The Hague  
The Netherlands  
E-mail: [arend.ligtenberg@staff.girs.wau.nl](mailto:arend.ligtenberg@staff.girs.wau.nl)

Greet Overbeek  
Agricultural Economics Research Institute (LEI-DLO)  
Burgemeester Patijnlaan 19  
P.O. Box 29703  
2502 LS The Hague  
The Netherlands  
E-mail: [m.m.m.overbeek@lei.wag-ur.nl](mailto:m.m.m.overbeek@lei.wag-ur.nl)

Livio Piccinini  
University of Udine  
Ingegneria Civile  
Via della Scienze 208  
33100 Udine  
Italy  
E-mail: [amae@dbea.uniud.it](mailto:amae@dbea.uniud.it)

Nico Polman  
Agricultural University Wageningen  
Economics and Management  
Agricultural Economics and Policy  
P.O.Box 8130  
6700 EW Wageningen  
the Netherlands  
E-mail: [nico.polman@alg.aae.wau.nl](mailto:nico.polman@alg.aae.wau.nl)



Iris de Putter  
Agricultural Economics Research Institute (LEI)  
Burgemeester Patijnlaan 19  
P.O.Box 29703  
2502 LS The Hague  
The Netherlands  
E-mail: [i.d.deputter@lei.wag-ur.nl](mailto:i.d.deputter@lei.wag-ur.nl)

Marijn van Rijswijk  
Agricultural Economics Research Institute (LEI)  
Burgemeester Patijnlaan 19  
P.O.Box 29703  
2502 LS The Hague  
The Netherlands  
E-mail: [m.m.poel-vanrijswijk@lei.wag-ur.nl](mailto:m.m.poel-vanrijswijk@lei.wag-ur.nl)

Bill Slee  
Department of Agriculture  
University of Aberdeen  
581 King Street Aberdeen  
AB24 5UA  
UK  
E-mail: [rwslee@abdn.ac.uk](mailto:rwslee@abdn.ac.uk)

Peter Smeets  
Staring Centrum  
P.O.Box 125  
6700 AC Wageningen  
The Netherlands  
E-mail: [p.j.a.m.smeets@alterra.wag-ur.nl](mailto:p.j.a.m.smeets@alterra.wag-ur.nl)

Isabel Vanslebrouck  
University of Gent  
Department of Agricultural Economics  
Coupure Links 653  
9000 Gent  
Belgium  
E-mail: [isabel.vanslebrouck@rug.ac.be](mailto:isabel.vanslebrouck@rug.ac.be)

Ingrid Verhaegen  
University of Gent  
Department of Agricultural Economics  
Coupure Links 653  
9000 Gent  
Belgium  
E-mail: [ingrid.verhaegen@rug.ac.be](mailto:ingrid.verhaegen@rug.ac.be)

André van der Zande  
SC-DLO  
P.O.Box 125  
6700 AC Wageningen  
The Netherlands  
E-mail: [a.n.vanderzande@alterra.wag-ur.nl](mailto:a.n.vanderzande@alterra.wag-ur.nl)