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One Europe, more nature

Exploring the future for nature and landscape against the background of developments in European agriculture

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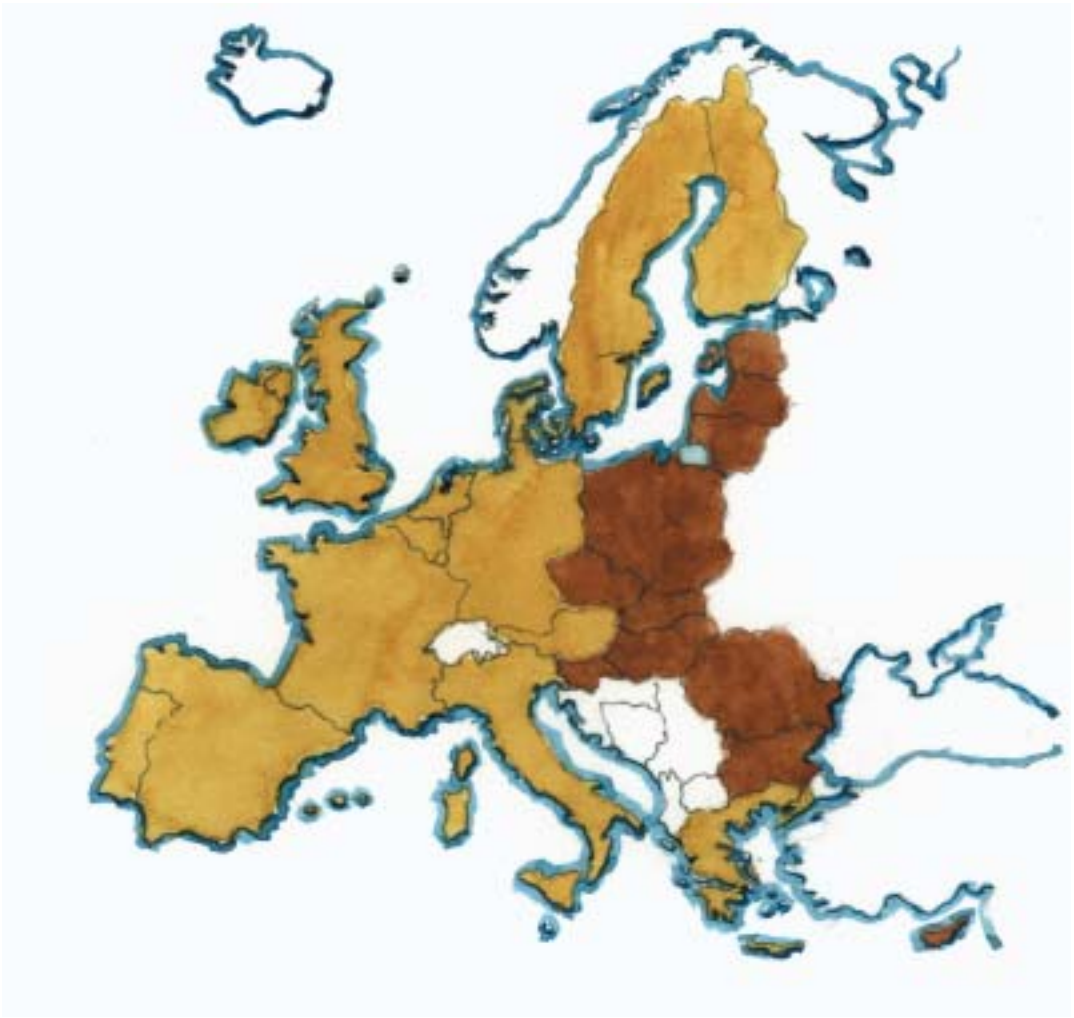
Polish landscape along the River Bug

'Web of Life' study for the WORLD WIDE FUND FOR NATURE
07th March 2002



Europe
When this study refers to Europe, it consists of the present 15 EU member states and the 11 countries that will be added to the EU in the next 5-10 years. It is in these 26 countries that extension of the EU will have far-reaching consequences for the landscape.

(The EU will be extended with Poland, Hungary, the Czech Republic, Estonia, Slovenia, Cypress, Latvia, Lithuania, Rumania, Bulgaria, and Slovakia)

Introduction

THE EUROPEAN LANDSCAPE AT THE CROSSROADS

The future of the European landscape is very much determined by major changes in agriculture, which at present takes up over 50% of Europe's surface. The current European agricultural policy may lead to a land surplus of several million hectares which is no longer needed for agriculture. This means drastic social changes in the rural area and a revolution in land use.
These changes, which have already started and which will increase by the extension of the EU, demand reflection by all those who care about the quality of the European landscape. Also nature conservation organisations must not only develop a view-point on the threats but also on the opportunities for nature that will arise in the coming decades.

When use of one part of the farmland is further intensified and the other part is left unused by farmers, this will not automatically improve the quality of the European rural area, either for its nature or for its landscapes. Quite the contrary. Only both extremes - bare farmlands with poor diversity and closed forests - will remain of the once so varied man-made landscape. This will also have serious consequences for the neighbouring nature areas.

As an answer to this autonomous development, European nature and landscape protection organisations must develop a firm alternative in which Europe's natural richness and landscape values are linked to a sustainable economic land use. Within the framework of WWF's Web of Life programme, this exploratory study is a start.

The ecological core areas in Europe:
Mountain ranges (green), river valleys (greenish blue) and estuaries (pale blue), urban conglomerations (red), livestock farming and mixed farming (both yellow) and arable farming and timber forests (both orange).

1 Objectives

The European Web of Life programme drawn up by the WWF aims at realising the following:

- conservation and development of a network of complete ecosystems representing the different European eco-regions,
- embedding this network in living, sustainable, man-made landscapes
- together with partners who serve new financing mechanisms for nature protection
- and with a central role for well-informed consumers.

(given at Zeist, 5 February, 2002)

To achieve this, it needs both a coherent view and pilot projects where these views are put into practice. This study offers ingredients for this view and puts forward suggestions for a number of pilot areas.

Then it will give further details to introduce the sequel to this report.

1.1 A NETWORK OF COMPLETE ECOSYSTEMS

Europe no longer has really complete ecosystems. At least a number of carnivores or herbivores no longer occur in all of the areas. Not for nothing does WWF attach great value to the protection and the return of these key species in many nature areas (Large Herbivore and Large Carnivore Initiatives: LHI and LCI).
It is mainly the large mountain ranges, river valleys and estuaries that should form the backbone of Europe's ecological network. Existing WWF initiatives, such as the Danube-Carpatheans -Programme, the PAN Parks, Living Rivers and the Freshwater Programme, are mainly focussed on these core areas.
Well-functioning ecological links between these core areas are needed to allow migration of species. In view of the climate changes, this will become even more important.

1.2 LIVING, SUSTAINABLE, MAN-MADE LANDSCAPES

In most places of Europe, the context of above mentioned nature areas is an agrarian man-made landscape of which a part (several dozen percents) is also very rich in plant and animal species. These landscapes and their nature values are under high pressure because of the European Common Agricultural Policy (CAP) and the liberalisation of world trade. The forthcoming extension of the EU is a crucial moment in this development and the WWF wants to seize the opportunity to achieve a sustainable rural development. This means:

- influencing the CAP (revision will take place in 2006!) whereby a larger part of the budget is spent on the quality of the rural landscape (see Chapter 2);
- encouraging the most important land users, agriculture (Chapter 3) and forestry (Chapter 4) in an economic operational management in which nature and landscape values are better integrated;
- finding new economic supporters for a sustainable development of nature and landscape in the rural areas (Chapter 5).

1.3 PARTNERS AND NEW FINANCING MECHANISMS

The foregoing has revealed the contours of a broadened, multifunctional rural development in which the quality of nature and landscape is partly guaranteed by market parties and partly by structural government funding (interest-generating funds instead of temporary subsidies). New funding mechanisms must detach the conservation and the development of nature and landscape from the subsidy scope (Chapter 6). Each region is therefore made suitable for other combinations of economic functions, which must support the landscape (Chapter 7).
This regional diversity will be conveyed to landscape organisations, which will be responsible for bringing in and managing funds, for monitoring the quality of the landscape but also for marketing regional products. This should result in a rural climate that makes it attractive for enterprises and individuals to invest in types of work and housing from which nature and landscape can benefit (Chapter 8)

1.4 CONSUMERS

Ultimately, it is the 500 million Europeans that will largely determine the quality of their landscape and the corresponding range of food. They are WWF's backers who, with proper marketing, can be induced to select activities and products that directly contribute to the quality of nature and landscape (Chapter 9).

1.5 PILOTS

A well-tried instrument to gain experience with natural processes with the linking to economic functions and with mobilising supporters is the development of pilot areas. Naturally, these pilot areas must be representative of the propagated viewpoints and of the elected approach. Chapter 10 gives a number of recommendations.

2 EU's Agricultural Developments Are Gaining Momentum

2.1 INTRODUCTION

A major part of the European nature values is located in agricultural landscapes, which cover some 50-55% of the surface in the future European Union.
They are also landscapes where, in the next few decades, major changes are expected as a result of the extension of the EU and the expected liberalisation of the world trade. Continuation of the present CAP will lead to further equalisation of the European landscape, whereby the consequences could be disastrous, especially for Eastern Europe. The planned revision of the CAP in 2006, combined with the extension of the EU taking place at about the same time, was for WWF reason enough to develop a new view on the European rural area.

2.2 TRENDS AND FACTS IN AGRICULTURE

Below is a point by point summary of the developments of agriculture in the EU. For basic reports, please see the Bibliography.

- In post-war Europe, agriculture was focussed on technological development, on expansion and on guaranteed prices for the farmers to become self-supporting in food production.
- As a result, the productivity of the farmland was dramatically increased and made Europe into a net food exporter. However, because of the rising prices of land and the costs of labour, Europe's position could only be maintained by export subsidies for EU products, and import duties on products from elsewhere. Combined with the dumping of food surpluses on the world market, this system markedly deteriorated the agricultural situation in poorer countries.
- In the EU itself, the effects of price control are that consumer prices are about 1.5 - 2 times higher than the prices on the world market.
- Technology and expansion lead to a shift in the farming community as only the largest and most advanced enterprises could survive. This was actively encouraged by the CAP: 80 % of agricultural subsidies went to a mere 20 % of the farmers.
- In the last decade, the number of farmers that stopped their business in the present EU has risen to 200,000 per year. This meant a large decrease in the agricultural share in employment (in the Netherlands from 44 % in 1849 to 3.5 % in 1997).
- The agricultural share in the European BBP has sharply decreased and numbered only 1.6% in 1997.
- Agricultural policy takes nearly 40 billion of the total EU budget of about 75 billion. This is about € 350 per capita/year. (In Norway and Switzerland, which did not join the EU, this amount is even 2 - 2.5 times higher; in Japan and the US just as high, but elsewhere much lower.)
- A small portion of this (about 10 - 15%, but each country is free to increase this

share; modulation) is spent on rural development, encouraging local products, agricultural nature management, and etceteras.
- In the present form, this support goes to the generation of farmers that will stop their business in the next 10 - 15 years (85% of the farmers working on small-scale farms is over 50). This must therefore be seen as a social measure to ease the pain this agricultural revolution causes to individual farmers, instead of a sustainable investment in rural areas.
- Product subsidies are generic in character and are not tailored to the specific circumstances in different regions. For example, the subsidies for local cattle (e.g. in Spain) resulted in overexploitation and soil destruction of poor pasture land. Elsewhere herdsmen cultures collapsed because the premiums for ewes, which were in fact meant for the shepherds, resulted in an increase of sheep farms and a decrease of the meat prices in the whole EU.
- The societal demand for a maximum food safety, animal welfare and environmental efficiency (as for energy and waste) per kilo product is responded to by a further industrialisation of the agricultural sector, though this process caused problems (BSE, preventive culling of healthy animals to combat BSE and other diseases).
- Intensifying livestock farming goes hand in hand with a shift of this branch of business in the direction where large ports are located. The reasons: cheaper supply of animal feed (mainly residual products from Asia and South America) and cheaper transport of meat and the possibility to grow further into a network with related products.
- Land-related agriculture moves away from the richer countries because of the low productivity and the high land price.
- Intensifying agriculture and the connected development and draining are the most important causes of nature and landscape destruction in twentieth-century Europe. Only 7% of Europe's surface consist of nature areas, as opposed to 20 % or more in other continents. 60% of the European wetlands has been reclaimed and developed and cultivated.

Whereas, in the last decades, intensification has continued in Western Europe, an extension of agriculture has taken place in large parts of Eastern Europe after the break-up of the Soviet Union with using less fertiliser and pesticides for lack of money.

2.3 EXPECTED DEVELOPMENTS

Considering the above data, one can easily assess the consequences the approaching extension of the EU and the liberalisation of the world trade will entail:
- EU's extension will have developments in the member states similar to what happened in Western Europe: expansion and intensification of land use. For that matter, the new member states will also be directly confronted with the guidelines drawn up in the EU for the protection of nature and landscape: tighter environmental legislation, guidelines for birds and habitats, framework directives for water, and etceteras.
- The intensive increase in productivity in the new member states (total production is now about 30 % of EU's production), whether or not encouraged by price and income support from the EU, will lead to new food surpluses in the EU with new problems on the world food market.

- This will accelerate because West-European farmers will go eastward because of lower wages, lower land prices and (for some time) a more flexible environmental legislation (in fact, the environmental legislation will drive the intensive livestock farmers into two directions: to port and industrial areas, and to Eastern Europe.
- This will cause a sharp decrease in the number of farms. Especially Poland, where under the communistic regime hardly any collectivisation of agriculture took place, is threatened with a disruption of the rural area since millions of Polish farmers seem to go bankrupt (see box).
- This item of information and the fact that the per capita income of the east-European population is on average 10 times lower than in the present member states means that the present EU subsidy system cannot be extrapolated to the new member states, unless the amount of the subsidies is strongly decreased.
- Maintaining price support will also confront the populations of the new member states with a more costlier food range.

The Polish Farmer

The plans for extending the EU have placed a time bomb under the CAP, and this time bomb is called Poland. Unlike in other European countries, Polish rural areas have remained largely in private hands which makes that many areas have small-scaled scenic landscape. Ten million Polish farmers were hoping to have facilities similar to what their west-European colleagues have. But whether or not their demands will be complied with, their entry into the EU with the present CAP will mean that there is no future in stock for at least 80% of the Polish farmers in the agricultural sector.

Apart from the consequences for nature and landscape, this is a pressing social problem with which the enlarged EU will be faced. What in Western Europe gradually crept in, will come about in Poland within two decades. At the same time, this also a chance for a revolutionary change of the CAP. When Polish farmers are soon enough becoming aware that their chance of belonging to the 80% drop-outs is more likely than belonging to the 20% survivors, it may become the nurturing place for new co-operatives (see Chapter 8) that will be involved in more than only food production.

2.4 TOWARDS DIGITAL LANDSCAPES

Within a couple of years, some 60 - 90 million hectares of land in Europe will be disposed of, purely from the viewpoint of food production (to preclude new food surpluses). Abandoning these (often marginal) agricultural lands will not automatically mean a better quality for nature and landscapes. Large parts of these lands will spontaneously or actively forested or, near urban areas, degenerate if no additional policy is made. Extension and intensification will continue on the remaining farmlands. This may create 'digital landscapes' where large-scaled open agricultural areas and closed forests will dominate. Especially the relic landscapes will be under pressure: the *Cultura Mista* in Italy, the hedges and wooded banks in France and England (presently, some 3,600 km of wooded banks are disappearing in the UK alone every year) the moist hay lands in Poland and the herd landscapes in the Balkan countries and the Mediterranean regions

The regional diversity of these scenic landscapes is partly a manifestation of the natural variation which was once the origin of its creation. This more and more often makes way for uniform production methods for food and wood following Europe's pattern. From the angle of ecology and scenic beauty, this is often a step backward from a varied man-made landscape.

The current CAP will produce 'digital landscapes': bare farmlands versus closed forests. What is wrong with that? Well, forest is only one component of the original grazed natural landscape where pastures and forests alternate in a lively mosaic landscape.

There are several options for the WWF to alter the above developments and make things work well. One of these options is to alter the CAP itself.

2.5 CHANGING THE CAP?

It will be very helpful for nature and landscapes in Europe if the CAP is given a different interpretation, whereby:

- a larger part (than the present 10-15%) of EU's agricultural budget will be spent on rural development;
- this rural development will not be based on temporary subsidies but on sustainable, interest-bearing funds;
- these funds will be provided on the basis of criteria that enhance the regional differences in nature and landscape instead of levelling down, the way it happens now with the generic subsidies;
- these funds will not be provided (at least not directly) to individual entrepreneurs, but to regional organisations that can monitor the quality of the investment on the landscape level;
- the share of the EU agricultural budget that is not directly spent on rural development will support production methods that handle energy (transport) and raw materials with maximum efficiency and that save the environment (e.g. the use of manure and pesticides).

These changes will only be effected if the WWF can concretely show to what this alternative approach can lead. Influencing policies can therefore not do without real-life cases. Exactly what these pilot projects must contain will be discussed in the next chapters.

3 Food for Nature

3.1 INTRODUCTION

It is obvious that there is a link between nature and food production. Indeed, the largest part of the European surface is organised for food production, and agriculture has shown in the past (and it even currently shows in East-European areas) that it can go hand in hand with a wealth of species of plants and animals.
However, situations in which small-scaled agriculture could harbour wild plants and animals are very different from agriculture created by the present CAP. Moreover, technical developments in agriculture have made such progress that the relation between nature and landscape has disappeared or has taken a turn for the worse.

A renewed linking of agriculture to nature in the European Union by applying the old methods of working is no real option. And even the farmers in Eastern Europe no longer want to apply hoe, sickle and scythe and work horses to generate more income and have more leisure time. In other words: what room do modern agricultural methods offer for long-lasting linking of food production to nature and landscape values?

3.2 LINKING AT FOUR LEVELS

This study distinguishes four levels at which the relation between food production and nature and landscape can be reanimated. We took the assumption that industrial development and rural development, which are considered to be the two pillars of the European agricultural policy, will remain effective for the time being, in whatever proportion to one another.

Industrial development leads to a reduction of the farmlands and can therefore contribute to the development of new nature areas.
This implies a spatial separation of agriculture and nature at the highest level, but offers new prospects for integration at both sides of the divide:

- in industrial agricultural areas, as this sector can develop techniques to make possible a more efficient handling of energy, raw materials and the like. (See section 3.3)
- in the nature areas that are separated from industrial agriculture, as they allow the development of rich ecosystems and may offer prospects to harvest ‘food from the wild’ (see paragraph 3.4).

Rural development, whereby food production remains to play an important role, also offers prospects for the integration of food production and nature and landscape on two scales:

- at the level of landscape (See paragraph 3.5)
- at the level of smaller plots (See paragraph 3.6)

3.3 FARMING INDUSTRY AND NATURE

Not only can further industrialised agriculture generate space for new nature areas, the sector can also develop methods within its own production process which may prove to be beneficial for nature in Europe and even beyond. To achieve this, industrial agriculture should invest in matters as:

- natural retention areas for clean freshwater that is needed for the production of food;
- the demand for biologically produced raw materials from East-European agricultural areas that are now facing sales problems;
- shortening the transport distances (less pollution and a simpler infrastructure).

3.4 FOOD FROM THE WILD

A new linking between nature and food production can be achieved when primacy is given to nature. In this case, food production is not more than the harvest of what nature as extra can offer in the form of fruits, nuts, mushrooms up to and including meat of animals that have to leave the area because of overpopulation.
When there are a sufficient number of large nature areas, this 'food from the wild' can still cater to an exclusive market which may take several percents of the total food market, and regionally even more when proper agreements are made with supermarkets, restaurants, and the like.

Because of the low management costs and the good prospects for a linking with other functions, including housing, recreation, water management, this form of food production can 'support' a vast area. Trademarks for these products can be directly connected to symbols that serve as indicators for the quality of complete ecosystems (bear honey, wolf meat, crane milk).

3.5 FOOD FOR LANDSCAPE

The relation between food production and the characteristics of the landscape is described in a study by Alterra ('Farmers for Nature') and actually advocates a small-scaled separation of functions. In this system, the management of landscape functions is separated from food production and is separately funded.

The funds are paid from the interest of a fund in which the authorities lodge the equivalent of the land price of the landscape elements. The interest generally compensates the yields of agricultural produce. It makes it even attractive for the farmer to include poor or badly located plots or lands with wet soil in his enterprise, but to exclude them from production. Taking as a basis an average of 10% cover of landscape elements in valuable scenic landscapes, this fund should also provide for 10% of the surface.

In return for a long-lasting funding there should be an easement on the scenic property laid down in a legal record. This has the advantage that the farmer remains the owner of the land and the owner of any milk or manure quotas. Easement on the property has the advantage over selling the property because easement does not require transfer tax payments or a change in mortgage deeds. Examples of this form of landscape protection are found around some rural villages in the Achterhoek, in the east of the Netherlands. The system is rather easily controlled, even from the air. The relationship with biodiversity follows implicitly from the fact that many plants and animals will profit from the pools, hedges and wooded walls that are protected with this system. This allows a certain degree of certification in which biodiversity will carry some weight as well.

Small landscape elements in today's agricultural landscape can be maintained by financing management from the interests of a 'Landscape Fund'.

Some forms of food production, such as olive orchards, are more suitable for expansion from the angle of nature values.

Financial consequences

At an average price of European agricultural land of € 10,000, safeguarding scenic elements for 1 million hectares (of which 10% are scenic elements) requires a fund of € 1 billion. Full reorganisation of the present subsidy budget for rural development of about € 4 billion /year will yield the means to preserve 40 million hectares of scenic landscapes within ten years. If selectively applied in Eastern Europe, it would probably come to more because of the low land prices.

As the possibilities for more efficient food production will increase more strongly (bigger plots, adaptation of water tables) the farmers opting for this production method will lose ground on the world food market. They will have to compensate this by converting the surplus of scenic quality into alternative sources of income. (See Chapter 5 et seq)

3.6 FOOD AND NATURE ON PLOT LEVEL

The 'food for nature' system was elaborated by spatially separating both functions - food production and nature - on different levels. The same line can be followed for a

lower scale level, as we have seen in the protection of the meadow bird's nests in the Netherlands. However, the nature values protected on this level will decrease with the scale level on which the separation takes place.

Food production and nature are only fully interwoven in 'food from the wild', but in this case agriculture has been 'reduced' to harvest from natural systems.

If agriculture remains the primary function, further interrelation of food production and nature is only substantially profitable for nature when drastic restrictions are imposed on production methods. These restrictions are related to matters like not applying any pesticides on the land, not draining or levelling the land, and no external supply of nutrients.

Experiments are run in the present EU, but the expenses per hectare are high as the whole is based on loss of income. Moreover, the relation between cost price and profits for nature is difficult to prove, which is also an obstacle for certification of this production method.

This approach may well have more chance in Eastern Europe where, from sheer necessity, many farmers are almost working according to this regime, and can therefore profit from such funds soon. On the other hand, in these countries people are looking for a prospect with agricultural renovation that quickly increases the level of prosperity. Awareness campaigns must make them understand that this prospect is in store for only a small part of the farmers, and that they had rather opt for a management focussed more on nature and landscape.

Regional products (Think Global, Eat Local)

The wide variation in the European landscape is also expressed in a motley collection of regional food varieties: hundreds and hundreds of types of fruits, vegetables, cereals, etceteras, and each of them with an own taste. That, too, is cultural richness. These varieties can be preserved by encouraging regional products. Quality marks (appellation controlée) give guaranty for the production methods, but it is difficult to see here the relation they bear with the natural quality of the landscape.

And there is the problem of selling the products.

We know from experience that, even after intensive marketing, it is difficult to make ecological food conquer a market of 5% within some decades. There is an exception for certain regions in France where regional products account for 25% of the food market. In Eastern Europe, this market must still be built up from the ground.

Prospects for regional products are especially good in the neighbourhood of the large towns from where many people recreate in the surrounding area, or in famous tourist regions.

4 Wood for Nature

4.1 FOREST AND NATURE

Some 30-35 % of the European surface area is forested, and some 300,000 hectares are added every year. So good for nature, will people say. However, this apparently encouraging news is deceptive, as many of these forests are monoculture plantations.

Moreover, forests are only one of the components of the total ecosystem that also consists of grassy vegetation and all transitions to wooded areas (bushes, thickets, etc.) in large parts of Europe (about 90% of the total surface). The natural process, which is the basis of this variation, is grazing, and this process is absent in most European forests. This results in closed forests where we can find at the most 20-50% of the original biodiversity, depending on the intensity of forest management.

Albeit in domesticated form, grazing still plays an important role in many relic man-made landscapes, such as those in north-eastern Poland or in mountain areas with herdsmen, like in Spain, Greece and Bulgaria. Apart from the loss of their scenic identity, such man-made landscapes in their most extreme form may contain up to 90% of their natural biodiversity. In those cases, a spontaneous or planned development into closed forests will mean a marked deterioration of the ecosystem.

A thirty-year-old alluvial forest, non-grazed and grazed.

4.2 THINGS IN COMMON WITH THE PRESENT EU FOREST POLICY

Would there be any scenario in which forest and nature development go together without reducing the scenic quality to the lowest common denominator? In order to answer this question it may be good to list the European forestry figures:

- Forestry covers 195-215 million hectares of the European surface. Forestry is even the most important function in some parts of Europe (Scandinavia, Baltic countries, parts of Poland and Germany).
- The increase in forest areas takes place often (even spontaneously) on nonessential agricultural terrain and in former pastoral landscapes, and by converting brushwood areas or spontaneous woods into afforestation.
- Afforestation of farmland is government policy in France (in total about 1 million hectares), Austria, Finland (10,000 hectares per year), Norway, Poland (about 400,000 ha = 10 % of its farmland), Slovakia (60,000 hectares), Spain (total 1,700,000 ha) and Sweden.
- Since Sweden and Finland have become part of the European Union, the EU as a whole has been a timber exporting area.
- Together, European forests produce about 800 million m^3/year, of which about half is harvested every year. It must be noted that most forests grow on relatively poor soil with a biomass production of 1-8 m^3/ha/year (averaged 4.5). Forests on rich soil can reach a production of 10-20 m^3/ha/year.
- Nowhere in Europe can forestry be a break-even activity, unless interest charges are not included and/or afforestation is left out.
- Loss of forest mainly takes place in southern Europe by overgrazing (such as in Spain because of animal premiums), by forest fires (especially in recreationally attractive coastal areas) and as a result of wars or intensive firewood harvesting (Albania, former Yugoslavia).
- There is a shift towards certified, sustainable forest management (in line with the Forest Stewardship Council; FSC wood has presently a market share of about 7%). Though at the expense of wood production, the forest area increases at the same time and keeps the stock up.
- There is a growing interest in forest as storage of CO_2 and as biomass supplier. For the latter, one family needs at least 1 hectare of forest and a 'standard' 600 Mwe power station needs no less than 200,000 hectares. An essential contribution of biomass to the European energy supply requires an enormous space: several million hectares for each percent of the total energy need.

4.3 PROSPECTS FOR NATURE

The fact that only 50 % of the annual growth in European forests is harvested offers room for more natural development. This is actually done by decreasing timber harvest in large parts of the forest area. This decrease focussed on increasing the recreational values (which is, in fact, the most important economic aspect of forests) and a production based more on FSC criteria. However, as long as forests are not seen as part of a complete grazed ecosystem, the added value for nature is limited.

Instead of a generic expansion of forestry, European forest policy should be focussed more on a selective development of complete grazed forest systems in certain parts

Locations of Europe's most important forest areas.

of Europe. In selecting these forested areas, the EU can be guided by the endeavour to have a network of complete ecosystems throughout Europe.

The forestry map of Europe (see map 3) shows that forest share increases in the north, whereas the ecologically richest forest systems belong by nature to the south. Consequently, the conversion from production forest to grazed forest systems should mainly take place in southern Europe, where the ecological value can be increased in a relatively small part of Europe's tree cover without harming EU's total timber production.

A Key Role for Extensive Grazing

Where storms, fires and floods have plotted the rough lines of natural order, extensive grazing is the process par excellence to take care of the finer order of herbage, thickets and trees. Europe's biodiversity largely depends on it. This was the case in the original natural landscapes, but also in the older man-made landscapes. They also owe their richness in species to the direct influence (grasslands, heath, mountain meadows) and indirect influence (hay lands, hedges, wooded banks) of very low density grazing. These influences have almost disappeared from present forested and agricultural areas, which is also one of the reasons why they have so little nature value.

The future of Europe's nature will therefore largely depend on the degree in which we succeed in allowing extensive grazing to play a part in the landscape. It can be realised:
in cultivated form, though a new economic basis must be found for very extensive forms of livestock breeding and/or tending cattle (prospects for especially the relic man-made landscapes).
in the natural form, with wild herbivores, in larger-scaled areas, where the production of food and timber is of secondary interest (prospects for the core of the European Network of Protected Areas)

5 New Rural Partners

The foregoing shows that agriculture and forestry take up the most space in Europe, but their economic importance is shrinking. Moreover, both sectors are rather bothered by than benefiting from nature values and scenic elements.

This can be changed by adapting the production process (food from the wild / wood for nature) or by additional funding which is specifically geared to a long-lasting protection of nature and landscape values. This additional funding can be produced by the sector itself, but in that case there must be a change in culture (see also paragraph 2.5). The alternative is that, for funding, alliance must be sought with other users of the space.

In this connection it is interesting to see that a number of new, cash-rich functions are proceeding to the rural area with a growing interest in nature and landscape. The WWF could develop mechanisms with which this interest is translated into a direct contribution to nature and landscape. Some of these functions will be briefly discussed below.

5.1 ACCOMMODATION

Concerning the function of accommodation, we can see two contrasting movements:

- a greater number of people move to town. 85 % of the Europeans already live in towns, and this percentage will increase. This is because immigrants account for most growth of the population (on the whole, the European population is ageing and shrinking), and it is the immigrants that almost always move to the towns.
- at the same time there is a move to the rural area by a small but well-to-do group that often work in the city but want to live and recreate in a green environment. Moreover, many East European and a growing number of West European townspeople have, beside their house, a cottage in the rural area which is often their ancestral home.

These movements together will cause a shift in the rural area: a shift from farms occupied by farmers to normal dwellings, cottages as second homes, and recreational houses. This trend is stronger in the direct environment of urban centres and in recreationally interesting areas.

These new rural residents are generally wealthy and, if steered well, could make a positive contribution to nature and landscape from which they profit as well.
In return for 'being allowed' to build and live in special (natural) landscapes, the government could ask payment of a contribution to nature and landscape. This could be implemented by a regional surcharge on property tax which should also be used for nature and landscape development in that region.

Using old farmhouses as holiday homes or country cottages could give new impulse to the rural area, especially in Eastern Europe.

Holiday-makers in scenic areas.

Particularly in Eastern Europe, the low land prices will also make a new form of large-scale landownership possible whereby wealthy citizens take care of large nature areas in exchange for fiscal or other financial compensations from the government.

5.2 CARE

A more natural environment has generally a positive effect on people's health. That is why many care centres want to settle in a green environment. Up to now, this has often gone at the expense of existing qualities of nature and landscape, but this need not be so. The care sector is enough moneyed to safeguard and even develop its own green environment, especially in Western Europe. The government could couple permits for new-construction establishments of care centres in the rural area with conditions to invest in nature and landscape in the surroundings. Alliances with health insurers are obvious.

5.3 RECREATION

Recreation and tourism are now the most important sectors in the European countryside and it is expected that tourism will double before the year 2020.

Areas that are valued highest by tourists are vast nature areas and varied, historic man-made landscapes, which are also the areas that score high with biodiversity. However, financially speaking it is often one-way traffic: the tourist sector profits from a high-quality landscape, but conversely it seems that tourism hardly contributes to the quality of the landscape. On the contrary. However, tourist tax could build in this reciprocity.

Because of the low starting threshold, it is easy for entrepreneurs to enter the tourist sector which makes that this function can relatively quickly contribute to the development of the rural country.

The description given in paragraph 5.1 for the residential sector also holds true for residential recreation, especially when it involves holiday parks, holiday cottages and the like.

5.4 WATER RETENTION

Almost all European rivers wrestle with the same problem: as they have followed a strategy of quick water discharge from source to estuary for centuries, we can see ever increasing extremities in water levels. The result: extreme droughts in summer and floods in the rainy season.

Instead of constantly repairing the damage, more ways are now being sought of preventing future damage. This has resulted in trying to solve the problem on catchment level and by following a strategy of retaining water upstream as long as possible and of creating more storage capacity at the same time.

Both measures can very well be combined with nature development. However, it usually involves substantial amounts of money (around € 15 billion for the Rhine alone; this means millions of Euros for each cubic meter of Rhine water to be retained upstream). This money should partly be spent on land acquisition in strategically important retention areas, but could also be lodged in a 'sponge fund' from which yearly money is remitted to landowners that manage to realise water storage on their land.

5.5 FRESHWATER SUPPLY

Retaining water upstream will not only diminish the chance of floods, but has also a positive effect on the freshwater supply in dry periods. As there is a growing need for clean freshwater it follows that more attention should be given to retaining water upriver, preferably not with static storage reservoirs but with flowing storage in more natural brooks and river valleys.

That freshwater supplies are in great demand is proven by the large water transfer projects in Spain and Greece (Barcelona is getting water from the Rhone, agricultural areas in south-western Spain and northern Greece make heavy demands on the water supply of rivers).

Water companies also keep watch over their supplies in the soil. These supplies are more and more threatened by diffuse pollution that is mainly caused by the agricultural sector. Water-collection companies can secure their sources by acquiring lands and by managing the lands more naturally (there are many examples in the

New nature areas along the Rhine can be created by clay extraction.

Netherlands). This method can give important support to the development of new nature areas and extensively managed man-made landscapes.

5.6 MINERAL EXTRACTION

Here we must make a distinction between:

- regenerable raw materials (depending on the location and the scale of extraction: clay, sand and gravel). Here we can apply the principle of cyclic regeneration in which scale and pace is as much as possible adjusted to the natural dynamics and in which these areas can develop naturally after the extraction (examples are the methods used by Dutch clay extraction companies and gravel extraction along the Main).
- non-regenerable raw materials or raw materials when the pace of extraction is much higher than the pace of 'production' (such as peat, brown coal, chalk, rock or stone). If the site is delivered correctly after the extraction (qua remaining soil, water tables, taluses, etc.) these kind of extractions can give the impetus to a more natural development of the area.

On the European level it involves a relatively small-scale activity covering several thousands of hectares every year. However, mineral extraction is financially powerful enough to set up a fund from which nature and landscape management can be financed for many years to come.

6 Broadened Rural Development

6.1 LANDSCAPE AT THE CROSSROADS

The foregoing makes it clear that, on European scale, another landscape revolution will take place that can be compared with the rise of mechanisation or the invention of artificial fertilisers. The traditional functions of forestry and agriculture, which together cover some 80-90% of the area, seem to be no longer the economic supporters of a varied landscape. This role is partly taken over by nature protection organisations, but also the 'user' depends heavily on subsidies.

At the same time, we see the advance of new cash-rich functions that have a growing interest in the quality of nature and landscape. However, they are not (yet) mainly 'surface managers', such as agriculture, forestry and nature management. Nevertheless, it means that there is the demand for new coalitions of 'surface managers' on the one hand, and on the other the functions that benefit from it.

6.2 BROADENING AGRICULTURAL FUNCTIONS

Chapters 2 and 4 give the following favourable combinations:

with nature and landscape: via a growing market share of local products or game supply, and through funding to enable farmers to get part of their income from nature and landscape management in exchange for surrendering some control over his possessions (easement on their property)

with recreation: a low threshold will incite many farmers to start bed & breakfast accommodation or to create farmyard campsites. The more attractive the neighbouring landscape, the better the chance of success.

with housing: converting company premises into housing accommodation takes place more and more often. In the reconstruction of Dutch factory farming, this is the economic driving force with which the transition of farmland to nature area can be financed.

with the care sector: taking care of people with physical or mental problems in the rural area, but also child care, etc. Here, too, an attractive landscape will enhance the chance of success.

with water retention: farmers could make a deal with water managers to retain water in (part of) their terrain in exchange for a compensation per hectare or per cubic metre of water.

6.3 BROADENING THE FORESTRY FUNCTION

Forestry has the most favourable links with:

recreation: woody landscapes are favoured by people, especially by those who live in urban centres. There are many parallels between the degree of naturalness of a

forest (old-growth, grazed half-open structure) and its recreational appeal.

drinking-water extraction: area covered with woods or nature is a good guarantee for a clean groundwater quality. Measures to increase the groundwater supply (native deciduous or mixed forest instead of high-yield softwood, longer rotation time, filling the ditches and the mere presence of forested land) not only support the water supply but also the natural richness.

water retention: retaining water longer along brooks and rivers is very well combined with forest development. It gives highly productive forests which are again suitable for other purposes (nature, recreation, biomass production).

In exchange for the services forestry companies offer to water managers, these companies should be exempted from land draining rates (which are presently the highest cost items for Dutch forestry companies)

housing: the run city dwellers have on dwellings nearby forests can be used for the creation of new forests, (partly) paid for by building new dwellings. This may be implemented on various scale levels, varying from new communal lands for larger groups of people to exclusively large landownership for wealthy entrepreneurs.

care: is analogous to housing

food from the wild: an exclusive market is catered to by harvesting food from forests to share the costs of developing forest ecosystems.

Old and new man-made landscapes
Left: Along the Bug River in Poland: a proper basis for regional organic products, farmyard campsites and natural water retention.

Right: Landscape along the Rhine in the Netherlands created by linking with high-water protection, inland navigation and recreation.

6.4 BROADENING OF NATURE MANAGEMENT FUNCTIONS

Not only existing nature areas but also new nature areas that may be created by reducing farmland can acquire additional economic significance by having links with recreation, water retention, drinking-water supply and housing. This runs more or less analogous to what is written under forestry.

There is also a specific linking with mineral extraction as this may give an important impetus to the return of natural processes. The largest profits can be realised by converting a part of the present forest cover into natural grazed forest systems and by setting up a natural grazing management on abandoned farmland.

Considering the large areas that are involved, nature conservationists should be less focussed on acquiring property (and the attached high costs of land acquisition) and more on seeking a joint management for or by various landowners who, each in their own interests, will benefit from this joint management (see also Chapter 8).

7 Regional diversity

The economic pillars that are to support the future European landscape are different for every region. They depend, among other things, on the physical conditions (soil, soil hydrology, relief, climate) and their connection with large urban centres. Below is a review of the most important landscape types.

7.1 MOUNTAIN RANGES

Many poor farmlands, which will be abandoned as a result of the present agricultural policies, are located in the mountainous areas of southern and central Europe. Mountain meadows are or will often become forested, and the end of the herdsman culture will also mean a reduction to the lowest common denominator, as the grazed mosaic landscapes will grow into closed forests.

At the same time, the mountainous areas have great recreational potential and are the largest centres in the European network of nature areas. Both recreation and nature will profit from a landscape where, besides mountain forests, grazed open areas remain. Combined with the sale of exclusive local products, a new future seems to be in store for grazing, whether herded or wild.

Crete
European agricultural policy has put an end to many herdsmen cultures. In Greece, for example, the curtain has first fallen for the itinerant herdsmen (Vlachos), but also the herdsmen leaving their villages every day to go into the highlands (Voskos) will eventually give up their activities for more lucrative jobs - perhaps in a Greek restaurant in Western Europe.

7.2 RIVER VALLEYS

A large part of Europe's flora and fauna can be found along the large rivers, and the river itself is the natural connection for water organisms and species that profit from the river dynamics. Branching off into the smallest streams and the largest estuaries, they connect the mountains with the sea. Since many European rivers are oriented north-south (such as the Guadalquivir, Rhone, Meuse, Rhine, Elbe, Odra, Vistula,Tisza, Morava), they also form the main routes for animals on their yearly north-south migration.

Recent floods along almost all European rivers are an indication that the limits have been reached of a policy focussed on water discharge only. Reversing this policy into storing and retaining water longer is a trend that is meanwhile being followed for more and more rivers. This is consistent with a shift of purely agricultural use of catchment areas into a more natural system. WWF's Living Rivers Programme has several examples of successful combinations of river management, mineral extraction, recreation and nature development with which the original character of river ecosystems has been restored.

7.3 LOW AND LOWER MOUNTAIN RANGES

The development into digital landscapes is taking place fastest in these mountain ranges, as we can see in north-east and central France, Toscane, the German lower mountain ranges and the Spanish plateau. We can see the development of a sharp divide between intensive agriculture in the flatter areas and the bushiness in the areas that are not easily reached, such as the steep brook valleys where grazing or farming formerly took place on small terraces with ingenious irrigation works. These wild areas are often privately owned with weekend cottages on them.

The very special qualities of the relic man-made landscapes, their major importance for the drinking-water supply and their often complex type of ownership require the development of new land owners co-operatives. With the help of funds for water and land management, these landowners can have their communal wasteland and forest properties grazed (either tended or not tended) combined with the development of local products.

7.4 LOWLANDS AND COASTAL AREAS

The north-western European lowlands stretch away from Ireland/western France to the Baltic countries, and find their south European counterpart in northern Italy in the Po valley. They are the most productive areas for land-related arable farming and cattle breeding. They also accommodate the largest population centres of Europe, often connected with the estuaries of large rivers.

The same alliances as described in paragraphs 7.2 (along the rivers) and 7.5 (around large cities) apply here.

But the low-lying coastal areas have their own specific problems. Parts of them are related to water management and, considering the rise of the sea level on the one hand and the draining of the bogs or peaty soil (subsidence) on the other, they require another way of land use (combining new wetlands with water retention, water sports, living on the waterside, etc. See WWF's report 'Growing with the Sea'.)

The lowlands around the Baltic require extra attention because the agricultural prospects, which can be realised more quickly now that the EU is expanding, do not agree with the relatively pristine wetlands in the area. It would be much better to form new alliances with sustainable water management. Moreover, the present landscape structure offers an attractive basis for living and recreating in the rural area combined with landscape management and the production of regional products.

7.5 AROUND THE CITIES

The pressure of high wages and high land prices induce land-related agriculture around cities to make way for more intensive functions. These are the areas where nature and landscape can be co-financed by living and care functions. The reliance of large groups of people on the direct environment of urban areas makes it possible to realise a relatively large sum per square measure. This may be the very lifeline for historic man-made landscapes from where regional products may find a ready market.

Another development around cities is the freely accessible 'walkabout nature' combined with countless recreational facilities.

In reaction to the everyday routine and as a way of spending more leisure time, an increasing number of city-dwellers are searching for wilderness experiences in their direct environment also in the weekends. This makes that relatively expensive land will eventually become available for spontaneous nature development.

Tuscany
The reliance of large groups of people on the direct environment of urban areas makes it possible to realise a relatively large sum per square

measure. This may be the very lifeline for historic man-made landscapes from where regional products may find a ready market.

8 Organizing Production

8.1 INTRODUCTION

Safeguarding and developing nature values on the level of landscape also require a fitting organisation on landscape level. This chapter discusses briefly how such an organisation could function:

- on the regional landscape level (8.2)
- on the local landscape level (8.3)
- on the level of individual entrepreneurs (8.4)

The WWF can assist in setting up such new organisational systems in pilot areas.

8.2 REGIONAL COALITIONS

Broadening the rural development also means that there is the need for regional working organisations to fill the gap which farmers' organisations left behind and which other sectorial organisations (such as nature and water organisations) cannot fill. The responsibilities of these regional organisations could include:

Fund management: To bring in and to manage funds that contribute to the scenic quality of the area. To grant money to companies that meet the fund criteria. To integrally fine-tune the payments from funds on the regional level; these funds often have a sectorial background (nature and landscape management, land-draining rates, tourist tax, property tax, etc.). Regions can already draw from a wide range of means, such as Natura 2000, SAPARD, and the Water Framework.

Monitoring: To check whether the criteria are still being satisfied in practice upon which the various funds have been provided.

Marketing: To promote the landscape and its produce, for instance at special events, not only to acquire new funds but also to support the landscape entrepreneurs in acquiring a market position.

Co-operation with retailers

Setting up co-operative facilities: To supply suitable herds, to set up distribution centres or, like in the White Carpathians, to build a 'green' slaughterhouse, a fruit juice factory, a drying-house for fruits, or a biomass installation.

Creating local public awareness by launching information campaigns.

Regional planning, e.g. by mediating in the consolidation of plots between companies thereby realising a better spatial planning for various forms of nature and landscape development.

8.3 NEW COMMONS

One may think of other local organisational forms within the larger landscape area. These forms may be co-operative whereby the land owners can shape the landscape

with their activities. They may also be organisations to manage the landscape instead of or on behalf of the landowners. (Stichting Ark has taken on this role in many projects).

It is a fact that an increasing number of private landowners are now settling in the rural area. These landowners do no longer have a primary interest in agriculture or forestry but want to live or recreate in a natural surrounding. Individual owners are often not able to realise an adequate nature and landscape management on their private estates, but with combined forces they may achieve their aims when placing their properties at the disposal for a communal management in a New Commons (in the form of an easement on their property).

The concept of 'New Commons'

Centuries ago, there were in large parts of Europe economic reasons for splitting up common property (marks, common land) into plots held in private ownership parts to increase agricultural production. We now see that these economic reasons are outdated in many European regions. There are even new economic interests to manage private lands as a unity. This does not mean that these lands must be purchased. A mutual agreement (e.g. in the form of an easement on the property) may suffice to effect a communal management.
A new organisational role may be deserved for the municipalities (with a new interpretation of this old concept).

New Commons are possible in several situations:

1) An increasing number of farms in poor-soil agricultural areas are occupied by people who do maintain the house but not the land. This makes that smaller man-made landscapes change into bushes and woods. Natural grazing supervised by a 'Commons Supervisor' may be the answer. Funding could be provided from 'wilderness products' and regional funds.
2) On the outskirts of urban areas with possibilities for linking the development of accommodations for substantial companies (luxury houses, care institutions, recreational enterprises, etc.) to land acquisition with a joint management and paid for by these urban functions.

8.4 NEW MIXED ENTERPRISES

The foregoing shows that European society makes new demands on the rural country. Demands about the issue of food safety, landscape conservation, nature development, recreation, water retention, clean 'green' energy and drinking-water production, new accommodations, etc.
Each individual rural resident can in principle focus his work on those changed demands, for example

- by producing regional food products
- by realising recreational facilities on his property
- by entering into a water retention agreement with the water control board
- by carrying out activities in a neighbouring nature area (supervising the herds, harvesting wilderness products, and the like)

This will create the need for a new type of mixed farm for which not only agricultural skills are needed. Besides farmers, the rural area will therefore attract more and more other entrepreneurs.

This teagarden in Millingen near Nijmegen (the Netherlands) is an inspiring example of combining recreational facilities in a natural surrounding.

It is expected that the versatility of the work and the skills it needs (social, technical as well as economic skills) will bring fresh elan in the rural area, where the social status of former mono-functional occupations like shepherd, forester and farmer has weakened.

Market and Government

The mixture of the future enterprises in the rural country is based on the fact that, in addition to an income through trade, people must also be able to lay claim on government funds for providing services for the common good.
These government funds should be structural and must take the place of the present short-term subsidies.

Against these profits there is a legal obligation (easement) for the landowner or entrepreneur to sustainably maintain the landscape for which money has been made available.

Depending on its nature, the enterprise will be entitled to one or more government funds, such as the funds for nature and landscape management, water retention or drinking-water protection. Within the conditions stipulated by these funds, the entrepreneur is free to acquire extra income by putting food, recreation facilities, care, energy supply (wind, sun, biogas) on the free market, and with services to nature management, timber production, etc.

The mixed enterprises could thus acquire a basic income through government funds together with the use, on certain conditions, of the area from where extra income can be generated by bringing products on the market.

Fiscal Facilities

It should be further examined to what extent enterprises that supervise nature and landscape could come under a Nature Protection Act (in the Netherlands) or under a similar legislation elsewhere in Europe. Under this law, these enterprises are exempted from transfer tax and succession duty or inheritance tax. The latter would mean that it will make it easier for children to take over their parent's enterprise. As it is, the high transfer tax is a major constraint on the continuation of the enterprise.

In the Netherlands it must be examined whether the 'Long-lasting Entrepreneurs Tax Relief', which at present only applies to environmental matters, could be extended to enterprises related with nature and landscape. This could also apply to other European countries.

All in all, it is advisable to do some brainwork with a group of international tax specialists about attractive arrangements for enterprises that are dedicated to nature and landscape.

9 Organizing the Consumption

It is largely the 500 million Europeans that ultimately determine the quality of nature, the landscape, and the related food range by their purchasing behaviour. Four out of five Europeans are now living in large cities and they have become more and more remote from their natural surroundings. Most people know even more about African wildlife with zebras and lions than about Europe's indigenous rich wilderness. Let alone that they know where their food has come from and how it is produced!

However, we can see encouraging trends, such as the growing demand for recreation in natural landscapes close at home. This is WWF's backing who, with proper marketing, can be encouraged to opt for activities and products that directly boost the quality of nature and landscape.

Here the WWF can improve activities on three fronts:
- increasing the consumers' involvement in nature and landscape
- developing solid quality marks
- co-operating with supermarkets

9.1 INCREASING INVOLVEMENT

In order to let the mainly urban consumer consciously opt for nature and landscape, an active marketing strategy is needed that also includes the following elements:
- striking and freely accessible pilot areas that show the future of Europe's landscapes
- adequate informative material that dovetails with the pilot projects
- clear relation with the products produced by this landscape, including purchase advice
- offering package tours in and to pilot areas while integrating product presentations, etc.

The result of this should be that Europeans will see European nature as their own nature from which they automatically acquire the products that enhance the quality of nature in Europe.

There is still a lot to be done. It is mainly the West-European city-dwellers that are prepared to pay for nature and scenic beauty in their environment, whereas many valuable nature areas and man-made landscapes are at a great distance from these urban centres.

9.2 NEW QUALITY MARK PRODUCT LABELS

Proper product labelling must guarantee the consumer that the purchase of these products has indeed the desired effect on nature and the landscape.

Analogous to the labelling of FSC [Forest Stewardship Council) and MSC products (Marine Stewardship Council) there should be quality marks for food that is produced in combination with landscape management or food that comes from nature areas. Similar labelling could be awarded to building materials (bricks), drinking water, holiday homes, etc. An existing form of labelling is e.g. the PAN Park certification.

9.3 CO-OPERATION WITH SUPERMARKETS

Supermarkets form an essential link in the food industry and play an important role in reaching the consumer. This role has not yet been favourable to nature and landscape. Incited by the consumer, the supermarkets are primarily interested in a low cost price. Quality is getting more and more important, but this is mainly related to the criteria of food safety, animal welfare and an environmentally friendly production method. These are criteria that are not directly translated into a more attractive landscape.

Standard quality is important to supermarkets and this is contrary to a production method into which nature and landscape values are integrated. 'Food from the Wild' as discussed in Chapter 3, is somewhat relegated to an exclusive market beyond the scope of supermarkets.

Controllability (of quality marks, among other things) is another important criterion. This may be technically feasible for specific environmental criteria, but much harder for landscape values and hardly possible for biodiversity.

In order to see what possibilities are feasible, further study should be done into the experiences acquired by:

- WWF-Switzerland regarding their co-operation with the COOP (with 75 million members)
- the co-operation of WWF-Austria with the Carrefour supermarkets in the White Carpathians
- the contacts with Unilever (sustainable agricultural initiative) via WWF-Netherlands and the Rural Development Team of WWF-Brussels

10 Pilot Projects

In order to gain experience and to communicate well, a set of pilot areas is needed that support the propagation of WWF's vision. The pilot areas should meet the following criteria:

- distribution over different European regions (geographical and ecological diversity)
- co-operation with different economic partners (economic diversity)
- preferably also in combination with new, future-oriented forms of society (social diversity)
- prospects for enlarging to vast areas of Europe (representative and communicative potentials)

For strategic reasons it is desirable to have, in addition to projects in future EU member states, one or more pilot areas close to the West-European government seats (within a one-hour drive from airports in the London-Berlin-Paris triangle. This fieldwork may kindle enthusiasm by responsible policymakers.

Below we have given ideas for a first set of pilot areas to be started in 2002.
A continual exchange of knowledge and experience should take place between the pilot projects so that they can promptly learn from each other's experiences.

The pilot areas and their locations

10.1 THE BALTIC REGION

Background: After the disintegration of the communist regime, lands belonging to state-owned companies were massively given back to their former owners, most of whom were (no longer) active in agriculture. The result: these lands became largely covered with bushes and woods. The situation in Latvia, where nearly 70 % of the surface is fallow, is the most extreme.

Project: Grazing projects in Latvia

Pilot project for: Extensive grazing as the key for developing new, half-open landscapes where the local population can make an income from the profits from ecotourism, meat and other 'food from the wild'. (Exchange of knowledge with WWF's project in Estonia about setting up production lines of quality meat with supermarkets).

(Potential) Partners: Private landowners (farmers, but also citizens who, as a result of the privatisation of state-owned companies, have become the owners of a (wooded) plot of farmland; some municipalities (Rucava, Grobinja), forestry companies and nature organisations (including the Kemeri National Park)

Regional organisation: Stichting Ark [Ark Foundation] is working together with WWF-Latvia and the LHI (Large Herbivore Initiative) on a fast-expanding network of private and communal grazing projects. The Ark Foundation has set up a herd fund and organises nature tours, makes promotion material, etc.

A Herd Fund was set up in Latvia to finance animals both for nature protection organisations and individuals.

Konik horses in a snowy Latvia.

10.2 POLAND

Background: Unlike most other former Warsaw Pact countries, Poland maintained its tradition of private landownership. As a result, the landscape has retained its small-scale character with a great variety in flora and fauna, especially in north-east Poland. However, the functionality of this landscape for agriculture has been under great pressure. What are the possibilities to give this a new economic basis?

Project: The Biebrza Valley

Pilot project for: Integrated protection of vast nature areas (Europe's largest marshland) together with the surrounding area with small-scale man-made landscapes. A modest programme for ecotourism was set up with dozens of farmers in the area, linked with selling regional products. These products are almost exclusively sold on the West-European market. Much must still be done to heighten the awareness of the Polish population.

(Potential) Partners: Local farmers, water supervisors and travel agencies for nature-oriented tourism.

Regional organisation: It is not entirely clear what co-operation there is between e.g. the Wolka Foundation (nature-oriented trips and sales of regional products) and the Polish Sustainable Institute in Warsaw.

Hayfields in the Biebrza Valley are mown by farmers who have additional income from tourism.

10.3 DANUBE-CARPATHIAN REGION

Background: As shepherds have stopped their work due to declining subsidies, mounting expenses and the transition into a market economy, the hill-country is suffering. This makes that the open landscapes (1/3 of the total area) are at risk: either the land will be abandoned or will be largely reforested. There will be problems with water storage along the rivers.

Project: No project has yet been found. There is a choice between a mountain project and a river project (Tisza?).

Pilot project for: Living Rivers (also with water retention, clay extraction, grazing) or a project in the mountains or hills where a promising change is made from monofunctional agriculture to broadened landscape development.

(Potential) Partners: Mainly in the field of tourism, water conservation, sustainable lumber production (FSC). Many of these potential partnerships have already been identified ("The Status of the Carpathians", WWF 2001)

Regional organisation: We are looking for them.

10.4 THE BALKAN COUNTRIES

Background: Europe's richest nature landscapes, the grazed forests of the southern Balkan, are threatened by the loss of the herdsmen culture. Half-open landscapes are changing into closed forests and will loose a large part of their indigenous flora and fauna. When the herd is gone, there will be no prey and carrion for the vultures and large predators in the area.

Project: Eastern Rhodopes around Madharovo

Pilot project for: Ecotourism and extensive grazing could contribute to the restoration and the development of complete ecosystems in the Rhodope mountains on the

border of Greece and Bulgaria. Restoring the natural relation between predators and prey or carrion.

(Potential) Partners: Local herdsmen and farmers, tourist organisations.

Regional organisation: NICCER, a subdivision of the Bulgarian bird protection organisation BSPB, has a visitors' centre alias hotel/pub from where it supports local initiatives related to extensive grazing. Stichting Ark [Ark Foundation] assists with building up the herds with the nearly extinct Rhodopi bovid.

Protection of the indigenous Rhodopi cattle is the key to maintaining the characteristic mountain scenery, which keeps the area attractive to (eco)-tourists.

10.5 MEDITERRANEAN

Background: Here, several important issues are at hand:

- sustainable use of the scarce freshwater from which both the economy and ecology profit;
- the loss of extensively grazed landscapes, including the cork-oak landscapes of the Extremadura and the herdsmen cultures in the various mountain chains.

Project: No concrete project has yet been found. It is preferred to have a project in Spain which offers new prospects for extensive management of cork-oak landscapes or for projects in which nature and land use can be combined with a more sustainable use of the scarce freshwater supply in this country.

Pilot project for: Sustainable use of water. New economy with extensive grazing.

(Potential) Partners: Agriculture and water boards when sustainable freshwater supply is involved.

Regional organisation: Must still be found.

10.6 WEST-EUROPEAN LOWLANDS

Background: Far-reaching intensification of agriculture and a water management focussed on a quick discharge of rainwater give problems in the lower reaches of the big rivers causing extreme water levels in the ecologically impoverished landscapes. More room for the river combined with nature development may change things for the better. It will also make the area more attractive for residents of this heavily urbanised area.

Project: Gelderse Poort at the top of the Rhine's estuary.

Pilot project for: Protection against high water combined with nature development and clay extraction outside the dikes. This will give a safer (protection against high water) and recreational and attractive river forelands. In addition to food production, the inland area will provide a second source of income from nature-oriented tourism. Here farmers continue to work on the restoration of an attractive man-made landscape and sell regional products to city-dwellers.
(Potential) Partners: Rijkswaterstaat [Department of Public Works], the Brick and Sand Industries, urban property developers in the Arnhem-Nijmegen Hub (KAN), Landscape Co-operatives for farmers, the Dutch Forestry Commission and organisations for the recreational and catering sectors
Regional organisation: Stichting Ark [Ark Foundation] (initiators in linking river management with nature and recreation outside the dikes), and Landscape Association 'De Ploegdriever' (inland initiator in restoring man-made landscapes and sales of regional products) may have key roles in setting up international pilot projects into which all these functions are integrated. This area is also suitable for experiments with the New Commons concept.

'De Gelderse Poort', where the Rhine, the Waal and the IJssel rivers branch, is an excellent pilot project for high-water protection outside the dikes combined with nature development and clay extraction, and food production and nature-oriented tourism inside the dikes

10.7 WEST-EUROPEAN LOW MOUNTAIN RANGE

Background: A large share of the water problems (both extremely high and extremely low water levels) starts with the intense discharge of water in source areas which are mainly located in the low mountain ranges. They are often depleted peat bogs that were formerly transformed into drained forests or (meanwhile poor) farmland.
Project: Walloon-German Ardennes near Sankt Vith around the watershed of the Ambleve (Meuse catchment) and the Our (Rhine catchment)
Pilot project for: Food production on the plateau and water storage in source areas. Linking with nature-oriented recreation creating a new network of attractive routes.
(Potential) Partners: Agricultural co-operatives and water boards.
Regional organisations: Reserves Naturelles and the Belgian sister of the Ark Foundation are developing this project together with local farmers.

In the higher areas of the West-European low mountain ranges, restoration of natural brook valleys can be combined with water storage.

11 Summary

An important part of European nature values is located in agricultural landscapes and is under pressure of ever intensive land use.

This land use is established in the EU's Common Agricultural Policy (CAP). Revision of the CAP in 2006 and the extension of the EU with 11 new member states gives the WWF a once-only chance to come with an alternative scenario for land use in Europe.

Agriculture (covering 55% of the surface) and forestry (35%) take up most space. However, economically these sectors are shrinking. Their relation to nature and landscape is more and more based on (temporary) subsidies.

A more lasting basis for the European nature and landscape management is formed

- by developing a part of the present forest and agricultural areas that is no longer needed for the food or wood production as self-regulating ecosystems. Selective harvest of timber and food (food from the wild) will remain possible.
- by changing temporary agricultural subsidy schemes in the area into structural interest-generating funds. This may protect special historic man-made landscapes.
- by linking landscape development (both in nature and agricultural areas) with new affluent functions that have a growing interest in nature and landscape (housing, recreation, care, water retention, freshwater supply).

All this will lead to a broadened rural development. This study shows that this development will look different in every region, and that it should be organised differently for every region. The future is to regional work organisations that can encourage local entrepreneurs to integrate the interests of nature and landscape into their activities.

There is a task for WWF, especially on the following levels:

- setting up pilot projects in the different European eco-regions to acquire experience with various regional partners and financing machineries for nature and landscape
- using these results to influence public opinion and the European (agricultural) policy
- creating awareness in European consumers that they contribute to the quality of nature and landscape by their (purchasing) behaviour.

12 Consulted Sources

12.1 BIBLIOGRAPHY

The European Commission, 1998. 'The Agricultural Situation in the European Union', 1997 Report. Luxembourg

Kol, J. & B. Kuijpers, 2000. *Landbouw en landbouwbeleid: alles wordt duur betaald, een economische evaluatie*. ['Agriculture and Agrucultural Policy: All is dearly bought; an economic evaluation') Erasmus Centre for Economic Integration Studies, Erasmus University Rotterdam.

OECD, 1999. Agricultural Policies in OECD Countries: Monitoring and Evaluation 1999. Paris

Stortelder, A., R. Schrijver et al., 2001. *Boeren voor Natuur. De slechtste grond is de beste*. ('Farmers for Nature. The poorest land is the best') Alterra report 312, Wageningen - the Netherlands.

Wereldbank, 1999. World Development Report 1999/2000. Entering the 21st Century. Oxford University Press, New York.

WWF-Netherlands, 2000. *Bergen van water. Waterbeheer als topsport*. ('Storing Heaps of Water. Water Management as top-class sport').

WWF-Netherlands, 1992. 'Living Rivers'

WWF-Netherlands, 1997. 'Growing with the Sea. Creating a resilient coastline'.

World Wide Fund for Nature, 2001. 'The Status of the Carpathians'.

12.2 WEB SITES

Various web sites of the WWF, EU, FAO, World Bank

12.3 PERSONS

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13 Appendix

Survey of the development of the European landscape used as pattern of thought when drawing up this report

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