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1 Introduction

With respect to tourism in national parks, two approaches are generally found. On the one hand, the opinion is articulated that national parks have been established to protect landscapes of outstanding beauty, including the organisms living in them. In the beginning, these conservation practices did explicitly include a certain level of recreational and tourist activities. Nature was protected to give people the opportunity to view and admire it. In a number of European countries the idea has recently be viewed that tourism could be a threat to nature, including the nature in national parks. If the level of funding is not sufficient as is currently often the case, tourism is then propagated as an instrument for solving these financial problems. Both approaches have in common that national parks are seen as special entities not related to the economic problems of the countryside around them. In this paper, it is argued that these approaches cannot achieve real solutions. National parks are, in this view, part of the problem of rural development. Additionally, arguments are given why tourism, national parks and rural problems should be investigated in a coordinated fashion.

The central question in this paper is which strategy should be evolved to guarantee the long term development of national parks. In Section 2, a sketch is given of the regional economic context of national parks. This concept is used to describe and analyse the options which can be chosen for the development of parks. In Sections 3 and 4, special attention is given to the internal and the external relationships of national parks. In Section 5, the value of nature concept, as it has been developed in environmental economics, is discussed. This can lead to a better understanding of the challenges and limitations of the marketing concepts discussed in previous sections.

2 A definition of the problem

National parks are located in regions in which original landscapes are still found due to rare combinations of special geomorphological, climatic, or botanic elements. In most cases traditional agriculture is significant, as modern agriculture tends to destroy most of these features. This implies that national parks are often located at the periphery of economic activities, where modern agriculture could not penetrate for one reason or another.

This means that in many cases traditional or low-impact agriculture is in many cases a precondition for the survival of the national parks. However, historic and current economic development is heading in the other direction. Modern agriculture and rural economic development are, as is often propagated, are not beneficial to national parks. It is often assumed that investments have to be realised in the region which will result in an increase in economic activities, jobs, and income. These ideas are based on a traditional Keynesian approach which completely overlooks the difficulties resulting from an uneven distribution of economic activities in space. These problems can only be understood when analysing recent rural developments.

In the twentieth century, agriculture and related economic activities have reacted to market forces resulting in an increase in demand due to a rise in population and purchasing power in urban European regions. Additionally, it should not be overlooked that, in many European countries, the experience of two wars resulted in the idea that countries should be able to meet the demand for feeding their own population as much as possible. New technologies made it possible to meet this increasing demand. These new technologies aimed at the intensification of agricultural techniques, implying that agricultural production factors increased their productivity dramatically in Europe. One of these production factors is labour. An intensification in labour productivity in agriculture resulted in a surplus of labour in the countryside. Subsequently, people migrated to nearby cities where industrialisation created new jobs.

Depopulation of the countryside was the result. When, in the course of time, the number of inhabitants of some villages fell below a certain level, normal services could no longer be provided in these villages because of a decrease in purchasing power of the people still living there. Schools and shops were closed, which again lowered the standard of living in these villages, thus decreasing the attractiveness of the villages as residential areas and as work places. Recent developments in Europe are moving in two different directions. On the one hand, there is still the intensification of agriculture in relatively favourable areas close to the cities and on the other hand, extensification and abandonment of land is a common practice in the relatively peripheral areas. In many cases, these processes of intensification and extensification take place in fairly close proximity. In the relatively fertile valleys, intensification takes place and higher up on the plateaus and the mountain slopes extensification is the norm. Both practices are detrimental to nature. Extensification leads to higher levels of fertilizer and pesticides with all their subsequent negative effects on the quality of water and soil, resulting in a dramatic decrease of many protected species. Extensification, particularly in mountain and Mediterranean regions, leads to erosion, desertification, and to a decline of open space and the related flora and fauna.

In the meantime, national parks were established in many European countries. Most of these parks were located where modern agriculture was not such a significant factor. This implies that agriculture in and around these parks was, from the agricultural point of view, not very well developed. There is the question of how to develop and maintain the national parks and what the function should be of the surrounding countryside. And what is, in this respect, the position of agriculture? It can be taken as a starting point that 'normal' rural development can only increase the problems in the long run. Development consisting of high levels of investment, as stimulated by the European Union for many years through the instruments of the Rural Fund, the Cohesion Fund, and others can only increase the intensification of agriculture, which in turn, leads to increases in labour productivity which result in migration, a rise in environmental pollution, and an ongoing threat to landscapes and nature. Hence, it can be concluded that the intensification of agriculture using traditional models of economic development, does not benefit the countryside.

The disadvantages of this development are increasingly being recognised by politicians, particularly within the European Union. In recent European documents, such as the Fifth Action Programme, it is argued that the traditional development of the countryside should be stopped and that a sustainable development of society should result in limitations to the 'normal' economic development of regions. However, the recognition of the problem is not the same as solving it. We are now at the beginning of a transition process, in which the European Union and national authorities intend to guide development so that it will be more beneficial to the countryside, landscape and nature. Local and regional authorities are often not aware of the rapid change in the approaches and departure points of regional development and nature protection. In any case, national park authorities should be aware of the changing situation regarding rural development. They are now in a position to become actors in the development of new approaches.

3 The internal approach

From the previous discussion, it can be concluded that the problems of national parks and the problems of the countryside are the result of the same economic development. They are, more or less, two sides of the same coin which implies that a solution can only be found if national parks and the countryside are investigated as a common problem. National parks can only survive in the long run if the intensification of agriculture in and around the national parks is stopped. On the other hand, further intensification of agriculture will have detrimental effects on nature, the landscape, the national parks and the countryside. There are two options. The first is to conclude that regional development is no longer possible once the economic and human resources of the region are below a certain threshold level. In that case, it might make sense to take this situation as a starting point and to develop the region completely in the direction of national parks of a much bigger size than is common now. These new national parks can be compared with the American parks in which normal economic activities are no longer found. The advantage to this approach is that economic funds can be concentrated on these regions,

which have a more favourable economic level.

The more favourable regions should receive sufficient funds for sound development. How should this be done? From the previous discussion, one can conclude that making a separate plan for the national parks and another plan for the regions does not make sense. If the problems of national parks and the surrounding countrysides are the same from the economic perspective, a comprehensive plan for a national park and the countryside should be the starting point. In most cases, the national parks have sufficient expertise at their disposal to make such a plan. They have the know-how and often the human resources needed for such work. It goes without saying that communication and involvement of the local and the regional communities is highly recommended in drawing up such plans.

One of the most striking aims of these plans is job creation, which is a precondition for every rural development outside the big national parks suggested previously. Of all the economic sectors, tourism is the only alternative for job creation in rural areas where national parks are located. The advantage of rural tourism is that there is a dramatic increase in the demand of tourism located in areas with high landscape values. The quality of this type of tourism is not identified by five-star hotels with indoor and outdoor swimming pools. The quality of the tourism infrastructure is found in the quality of nature in the region. When tourism in and around national parks is developed, the region should never have to compete with high-standard tourism areas along the coast and in other well-established tourist locations. In the first place, it has to be stressed that there is an abundance of these types of tourist destinations. It makes no sense, from the marketing point of view, to compete with these regions.

Sustainable tourism, which economically benefits the regions and their inhabitants is the only way to tackle the problems of the national parks and the surrounding regions. It needs to be reiterated that job creation is necessary for the long term survival of the national parks as well as the countryside.

The next question is, of course, how to maintain the quality of nature and the landscape in and around the national parks with a rise in tourism. In particular, people responsible for the quality of national parks are often afraid that tourism development will decrease the quality of nature. It is often argued that people will always disturb nature; the two are incompatible. It has to be said, however, that many investigations have not made it clear what the disturbances would be in the case of tourism and recreational activities (see, for example, Cocossis and Parpairis, 1992). Of course, if vulnerable vegetation is found in a certain part of a national park it goes without saying that paths should not be constructed in these areas. Whenever it is known that visitors can cause damage, measures have to be taken.

We should address the point that the interactions of tourists with nature and the landscape can easily be made compatible with the limitations of the national park. It is the tourism infrastructure which takes the tourist to a certain place. The development of this infrastructure is often in the hands of the national park authorities. Mass tourism, for instance, can only be developed after establishing a certain level of infrastructure. National parks authorities do not

usually promote mass tourism. They should ascertain what level of a given type of tourism is, generally speaking, compatible with the scope and limitations of the national park in question. After defining this level, they could promote the infrastructure needed for that level. It is of the utmost importance that they investigate to what degree far existing infrastructures such as barns and farm houses are still available in the region. By using this infrastructure, they can demonstrate that they are willing to promote the economic opportunities of the people living in the region.

Many national park authorities do not have the vaguest idea what to do with sustainable tourism. One thing is clear; sustainable tourism is consistent with the possibilities of the national park and the surrounding countryside. However, one should not forget that sustainable tourism is, from the marketing point of view, different from other forms of tourism. This implies that marketing should concentrate on the type of sustainable tourism that national park authorities intend to promote. It does not make any sense to argue that a certain type of tourism can be accepted in the region, and then wait until that type of tourist comes. In that case, they will never come.

Marketing approaches recognise different types of tourists. Some groups are relevant for the development of sustainable tourism. Given the example of bird watchers, one should not overlook that they are concentrated in some European countries such as the Netherlands, Great Britain, Germany and Scandinavia. There are hardly any in Italy, Spain, Portugal and Greece. The promotion of birdwatching is possible by advertisement in the former countries. In that case, the questions are: What type of accommodation is 'normal' for this type of tourist? Do they need guided tours? Where can watch towers be built? Which part of the national park should be closed to them to protect breeding birds? The relevant information has to be communicated to Western birdwatchers. The easiest way is to contact relevant organisations in these countries such as the Royal Society for the Protection of Birds and the international organisation Bird Life. National park authorities should stress the benefits of these visits for bird protection. But it is not only birds which are relevant in this respect. In Western countries, there are organisations investigating plants, reptiles, amphibians, butterflies, etc. There are many possibilities; however, the communication should always focus on the information which is relevant to the organisations.

In Western countries, furthermore, the number of people interested in nature and an interesting landscape who cannot be defined as birdwatchers, is much higher than is often assumed. For instance, the total number of active birdwatchers in the Netherlands is approximately 100,000; but more than 800,000 people (or families) are members of Dutch Nature. Therefore, the total market for nature lovers in the Netherlands exceeds 2 million people.

Public awareness, nature conservation, and sustainable tourism should be evaluated as one entity. Only by communicating these issues to the people around the national parks, can sufficient support be generated. It is of utmost importance to make it clear to people living around the park that the park authorities are willing to support the economic endeavours of these people. Furthermore, it needs to be expressed that only certain types of tourism can be accepted in a national park. A large number of visitors to the national parks creates a high level of support in

society itself. A very good example of this strategy can be found in the national parks of the USA, where willingness to provide public goods and services is very low. This is not the case with national parks, however, which are supported by the government. This is only possible because of the very large number of visitors to these national parks.

A crucial issue is the financial and administrative situation of national parks. When national parks are funded by national authorities the income from sustainable tourism realised by the national park itself often has to be paid back to the government. In that case, it makes sense to investigate to what extent it is possible to create new administrative structures or foundations in which the tourism activities can be realised without the intervention of the authorities. Even if it is not possible to derive direct benefit from sustainable tourism, one should not overlook the beneficial effects of sustainable tourism on the support of the population and authorities. There are two financial instruments which benefit national parks and can be used in nearly all situations: an entrance fee and a charge for guided tours. There are many arguments for asking a high price for these services. The rationale behind this statement is given in Section 5.

4 The external approach

In the previous section, it was argued that appropriate marketing is a prerequisite for achieving sustainable tourism in national parks. Of course, many national park authorities are not accustomed to marketing and these types of commercial activities, and in many cases there is a certain amount of hostility towards the whole idea of marketing. This is, of course, not surprising given that marketing is currently often used to draw tourists to any place where tour operators can make money off these developments, without regard to the effects of tourism on nature and the environment. Two comments have to be made here. Firstly, this attitude is changing rather rapidly, with an increasing number of tourists taking nature and the environment into consideration when planning their holidays. In everyday life, the effects of behaviour on nature and the environment are often given full attention in the public debate. People are becoming more aware of these issues during their holidays as well. Secondly, if it is the responsibility of national park authorities to promote sustainable tourism in and around national parks, it does not make any sense to not use the appropriate instruments to achieve that goal.

It should be noted that modern tourism is full of visual symbols (Goossens, 1992). Sustainable tourism is no exception in this respect. This implies that leaflets with pictures, signposts in the national parks, brochures for the tour operators, among other things, should fulfill these expectations. Modern tourists, including many nature lovers, are not able to recognise the value of landscape, vegetation, birds, and wildlife without help. If they are informed that a certain region is a national park with rare animals and plants, they will 'know' that they have made the right choice. A striking example is the Abruzzi National Park in Italy which has large numbers of visitors who are absolutely convinced that this park is of outstanding quality since there are brown bears and wolves there. They will never see them, but they will tell their neighbours that they have been to a place with such outstanding nature that there are even brown bears and

wolves there. This information has to be communicated to potential visitors.

5 The value of nature and the environment in Environmental Economics

From the previous discussion, one can conclude that nature, landscape, and the environment are given, often implicitly, a high value in society. The European Union policy, for example, aims at sustainable development of the economy implying that this will not come about in a normal market situation. Hence, public policy is needed. Additionally, tourists are willing to spend a lot of money to visit unspoiled landscapes and to observe rare animals and plants. From an economic point of view, one could argue that tourists are willing to spend scarce economic resources to get satisfaction from the observation of unspoiled nature. Presumably, nature and unspoiled landscapes have a high economic value.

One cannot overlook the problem, however, that this economic scarcity is only reflected to a limited degree on the market. It is often suggested that many other economic goods and services provide a better reflection of economic scarcity, as they are sold and bought on a market. In this case, the market price can be seen as a reflection of economic scarcity. However, this is only partly true. An automobile, for instance, has a certain market price which can be seen as the economic value which is given to that product by the car owner. Cars, however, do have negative effects on the environment; these negative effects are, in fact, societal costs, and should, therefore, be subtracted from the market price in order to calculate 'true' economic value. This example demonstrates that even market prices do not reflect 'true' economic value. It is the market price of the car which gives the impression of economic value. Thus, market prices cannot be seen, in many cases, as a true reflection of economic scarcity. Economists have recognised these problems and have developed a theoretical framework to cope with these types of problems. This will be discussed in the following sections.

5.1 Traditional approaches

To understand the significance of the economic value of nature, landscape and the environment, we need to pay attention to the theoretical value framework in traditional economics. In the traditional neoclassical framework predominant in Western countries, the value of a good can be measured on a market. Producers sell products on a market where consumers can buy these products. The equilibrium price of the market is generally seen as a reflection of the economic value of the product. On the one hand, the price is related to the costs the producers incur in the production process. Normally, these costs include the price of labour and capital and natural resources, when these are traded on a market, and all other intermediate deliveries to the producers. On the other hand, the market price bears a strong relationship to the consumer's willingness to pay, as a result of the revealed preferences of consumers. In this framework, the economic value of a good is normally the same as the market price. In neoclassical theories, individual methodology is one of the cornerstones of the framework, which implies that all individual preferences can be summarized to define national or total welfare.

This economic system brings about an optimal allocation of production factors due to the ability of the market mechanism to steer production and consumption into a societally desirable direction. One should not overlook the fact that in this framework economic value can, by definition, only be measured on a market. Outside the market, it is assumed, there is no relevant economic value.

As early as the nineteenth century Marshall (1890/1925) was aware of some pitfalls in this thinking. He formulated a large number of assumptions which have to be fulfilled before this theoretical model of optimal allocation can function. One of these assumptions was the absence of significant external effects. These were the welfare effects on economic agents other than the current market parties. In Marshall's publications we find only positive external effects. When someone wants to allocate a new factory, for example, he or she will, in most cases, give priority to a location where many other services are available for which the investor does not need to pay. This will bring the newcomer positive effects which are external to his or her decision. Negative external effects cannot be found in Marshall's publications.

Pigou (1920/1952) was the first economist to pay attention to negative external effects. He argued that optimal allocation of production factors is no longer apparent if substantial negative external effects are the result of production processes. Authorities should, in this view, investigate the damage to non-market actors caused by polluting industries. This damage has to be given a monetary value. The monetary value of the damage is seen as that segment of the production costs that is shifted to other economic actors. In this view, there is a dislocation of costs, resulting in a low level of costs in the polluting industry. The products are too cheap, as the production of these products is not confronted with all relevant costs. The dislocation can only be corrected by the government imposing a levy on the polluting industry. This levy can be seen as an attempt by the authorities to bring that part of the production that had been shifted to others back to the polluting industry. If this is done the dislocation of costs is neutralised by the environmental policy. Pigou published his arguments as early as 1920, when environmental disruption was not as relevant. Most economists were of the opinion that the Pigovian approach could be valued as an elegant solution to a difficult theoretical problem which hardly bore any relationship to normal life.

When environmental pollution became a 'normal' phenomenon in the course of the fifties and sixties, the discussion among economists to correct a dislocation of production factors resulting from environmental pollution came up again. Coase (1960) argued that the Pigovian approach need not lead to an optimal solution. If purification costs are high a more cost-effective solution could result from negotiations between polluters and consumers suffering from pollution. We will not discuss the differences between Coase and Pigou here as they are not relevant to our approach. What does require discussion, however, is the fact that Coase used the same assumption as Pigou. In both approaches the polluter and the victim are defined and there is a clear dose-effect relationship. In addition, in this approach the authorities can put a specific price on the societal costs of environmental pollution. Furthermore, the Coasian approach was not given serious attention.

In the course of the seventies and the eighties, Western countries were confronted with a growing level of environmental awareness among their citizens, resulting in the implementation of many environmental laws. In most cases, these laws do not reflect the introduction of Pigovian taxes. In the laws, a certain level of pollution is defined as acceptable and emissions have to be brought below that level. Permits and control were the normal instruments. In our context, the question is relevant why these authorities adopt an approach that is not Pigovian. Perhaps we can answer this question when we investigate the pitfalls and barriers which can be found in the theoretical Pigovian neoclassical system.

5.2. Pitfalls and barriers in the theoretical framework

One of the most significant shortcomings of the Pigovian approach is that in the model only a limited number of polluters can be found, and it is known exactly who the consumers are. Of course, this is far from current reality, since, for example, in the case of cars, there are many polluters and whole societies suffering from pollution. In such a situation, it is completely impossible to shift the environmental costs from consumers on to the polluting industries. This is complicated by the fact that in the Pigovian model a national authority is the entity par excellence to handle the environmental problem. On the one hand, however, in modern production processes, many emissions are transboundary, which means that only an international authority is able to deal with these types of environmental problems. On the other hand, in most cases, it is the countries which have the jurisdiction that makes the international environmental problems difficult to solve.

National authorities are in a difficult position if they try to implement environmental policies with strict norms. In the Pigovian approach, the government is seen as an objective economic agent not involved in the controversies between polluters and consumers. The government has the power, in this approach, to implement an environmental policy with strict norms when it is necessary to restore an optimal allocation of production factors. In modern societies, however, authorities are held responsible for the results of the economic process. When, for example, there is a high level of unemployment, it is the government which is blamed. When the implementation of environmental policies is accompanied by detrimental effects on employment or the international competitive position of national industries, the authorities also get the blame. This implies that in modern societies, the government cannot be seen as an objective economic actor able to implement a strict environmental policy that conflicts with leading economic interests.

In the Pigovian approach, it is assumed that environmental damage can be translated into monetary value. However, there are often no markets for nature and the environment. Indeed, crude oil, natural gas, and iron ore are traded on a market and therefore have a price. But this is not the case with the hole in the ozone layer, the greenhouse effect, the pollution of rivers and oceans, the decrease of biodiversity, and the damage done by acid rain. In the neoclassical approach, there is no economic value outside the market. This implies that nature and the environment, when they are not sold and bought on a market, do not have an economic value.

How is it then possible to shift the environmental costs back to the polluting industries? The Polluter Pays Principle is generally seen as a reflection of the Pigovian approach. But how can the polluter pay when we do not know how high the environmental costs are?

There are also many complications in the ecosystem itself. First, there is the problem of the relationship between emissions and deposits. Which chimneys in the Netherlands, for example, are responsible for the dying off of German forests due to acid rain? Of course, it is possible to claim that Dutch refineries are responsible for acid rain in Germany, but this does not mean that we are able to calculate all dose-effect relations in Dutch industry. However, we should not overlook the fact that these dose-effect relations are a prerequisite in Pigovian approaches. Another problem is the thresholds which are often at work in ecosystems. Pollution will not have a really detrimental effect at the beginning of the pollution, as the ecosystem is able to neutralise this pollution. However, ecosystems can do this only up to a certain level. As soon as this level is passed, the ecosystem will be substantially damaged. In this situation, the question arises which polluting industry has the right to emit before the threshold is passed. Finally, in an ecosystem synergetic effects are at work. The combined effect of a number of pollutants is often more significant than would be expected on the basis of the sum of all the damage done by these polluting factors separately.

We may conclude that the introduction of a Pigovian tax or any other type of economic instrument based on neoclassical approaches is very complicated. Many economists are aware of the shortcomings of an approach using these types of assumptions. This is why Baumol and Oates (1988) introduced a different approach. They argued that in cases where environmental costs cannot be calculated, a levy should be introduced aimed at reducing the level of pollution to a certain degree. This level of pollution had to be established outside the realm of economic theory. It had to be based on political decisions. This approach was elaborated and given the name 'critical loads'.

5.3 The practices of critical loads in environmental policies

The theoretical framework discussed in the previous section is seldom seen in current environmental policies. In most Western countries environmental awareness increased in the course of the 1960s, resulting in the opinion 'that something had to be done'. Generally speaking, authorities did not pay attention to the theoretical framework of environmental policies. They tackled the problem by introducing environmental legislation in which permits and norms were the general instruments. Economic instruments were virtually non-existent in these types of environmental legislation. It was said in these laws that environmental pollution and damage should be decreased. Permits were seen as the adequate instruments for realising this. However, permits can only be effective when certain norms are introduced.

In most cases, these norms were not related to critical loads, in which there is some idea of the relationship between the level of emissions and the level of deposits. In reality, these relationships are almost unknown. Environmental legislation used a different point of departure.

The levels of the norms increasingly became the result of a bargaining process between the polluting industries and the national authorities.

This put the authorities in a difficult position. Generally speaking, the technical knowledge possessed by the Ministry of the Environment about pollution resulting from certain industrial processes is relatively limited. It is the polluting industries themselves that are knowledgeable about these processes. So their bargaining position is considerably better than that of the government. The result is a strong tendency for the norms that are implemented to be weaker than the government originally intended.

However, it is not only a lack of technical knowledge which puts the government into a difficult position. In the Pigovian approach, in which costs and benefits of environmental measures are known, there is a strong theoretical basis for the implementation of a levy. The government is assumed to be able to demonstrate that, in a given case, a levy would be desirable based on established economic theories. However, as was argued previously, governments are not able to make these types of calculations. If the government intends to introduce strict norms which are used to calculate the maximum level of the emissions or deposits, the authorities are not able to 'prove' what the economic advantage is. Indeed, they are not able to suggest the correct environmental improvements, as clear relationships between emissions, deposits and monetary values are not known.

This creates a situation in which the introduction of a strict norm used in the process could be defended by arguing that this is a good thing for the environment, as it will lower the level of pollution. The government is not able to calculate the economic advantage of this introduction. The polluting industries, however, do know what the extra costs of production are after the introduction of the strict norms.

Polluting industries are very well informed about the shortcomings of this approach. They focus on the heavy economic burden they will have to shoulder as a result of the introduction of strict norms. Generally speaking, they will not argue against a sound environmental policy as such, but they will demonstrate the costs for their industries resulting from such a policy. It is this mechanism which, in many cases, has hindered the introduction of strict norms. We may conclude that the legislative framework provides sufficient possibilities for implementing a sound environmental policy. However, the Western European countries have not been able to reduce the level of pollution to an acceptable level in the last twenty years.

From this point of view there are no differences between economic instruments on the one hand, and command and control approaches with permits, on the other. In both cases, a certain level of pollution has to be defined which can be achieved either by strict norms in the permits or by the maximum level used in the process of implementation of economic instruments.

There are two other mechanisms which exacerbate this situation. The first is the mechanism of economic growth. In certain cases, such as the instalment of catalysis in automobiles, European Union countries have been able to introduce strict norms. These catalysis reduce the level of

pollution by 90 percent. The catalysts are installed in new cars. People buy a new car about once every ten years. Thus, after a period of ten years all cars will have a catalyst. At that point the level of emissions by cars will have been reduced by 90 percent. However, the increase in the mileage of cars and the number of cars is so high that this will neutralise the effect of the catalyst. The result is that ten years after the introduction of catalysts the emissions of acidifying substances will not have been reduced at all. It is the mechanism of economic growth which neutralises the beneficial effects of the introduction of strict norms.

This mechanism of economic growth often leads to a situation in which the pollution level does not decrease in the long run. There are societal reasons why there is pressure to increase the number of cars and their mileage. When lower income groups achieve a higher level of income due to economic growth, there is a strong tendency to buy a car as soon as they are able to do so. Hence, the distribution of income and emancipatory tendencies increase pollution, even after the introduction of strict norms.

The second mechanism is the increasing effect of international environmental problems, as in the case of transboundary pollution. Furthermore, global effects, such as the greenhouse effect and acid rain, cannot be neutralised by the actions of one country. Here, the introduction of strict norms will benefit the environment of other countries as well. Hence, there is a strong need to come to international cooperation in order to reduce transboundary pollution.

5.4 The value of nature revisited

The shortcomings of the traditional approaches in neoclassical economics have been recognised by many groups in society. The concept of sustainable development, introduced in the World Conservation Strategy of the International Union for the Conservation of Nature (1981) and later elaborated by the World Commission on Environment and Development (1987), can be seen as an attempt to overcome these shortcomings. In many publications, the concept of sustainable development or sustainable tourism is welcomed as a panacea to solve all problems in environmental policies. This is a very optimistic and perhaps naive opinion. As we have seen in the previous sections the crucial problem in environmental economics and policies is to define the economically correct level of pollution. The concept of sustainable tourism does not help us further. The acceptable level of tourism and where has to be defined. Recently new approaches have been developed to solve these problems.

It can be concluded from the previous sections that the value of nature and the environment in economics was only given attention by means of the external effect of market transactions on other economic agents. With this instrument, environmental issues will have a higher priority than nature and landscape. However, this may not marginalise the problem of the unknown value of nature and landscape due to the absence of market prices. This problem has attracted the attention of environmental economists. They construct other options to get an idea of the economic value of nature, landscape, and the environment. Three methods of evaluation have been developed:

- a) the contingent valuation method where a pseudo market is created by asking people what they are willing to pay for a certain environmental issue or a certain type of nature;
- b) the hedonic pricing method where the differences between the market values of the same types of houses but located in different settings in terms of nature and the environment, are taken as a proxy for the value of nature and the environment;
- c) the travel cost method where the travel costs people are willing to incur for visiting a certain nature area are taken as a proxy of the value of the particular nature area.

The contingent valuation method in particular has received special attention recently. It is seen by many environmental economists as a relatively good method to get relevant information with regard to the value of environmental and natural assets. We will concentrate, therefore, on this method. This paper cannot cover all the pitfalls and barriers of this method (a good overview includes the contributions of Navrud, 1991; Hanley and Spash, 1994, and Hoevenagel, 1994). One of the most striking problems of the method concerns the information which is available to consumers. In situations where the environmental situation is rather complicated as is the case with the greenhouse effect, nuclear waste, acid rain, and tropical rain forests, people are, generally speaking, insufficiently informed about these issues and, hence, are not able to give defensible answers about their willingness to pay for the protection of these natural and environmental goods and services.

In the case of touristic and recreational questions, this problem is not so evident. In this situation environmental complications are, of course, relevant, but they are not as significant as in the case of the greenhouse effect. Therefore, there is a general opinion among environmental economists that this method can give relevant information when touristic issues are discussed. We can demonstrate the relevance of the method by discussing some examples found in the economic literature.

- * The recreational value of the Midlands canals in England (Willis and Garrod, 1992).
The travel cost method has been used by these authors by estimating the recreational value of the canals in the English Midlands. These canals were constructed during the Industrial Revolution as part of an infrastructure for industries in the region. These canals are no longer used by boats, as industries are using other modes of transport. The maintenance of these canals amounts to approximately £50,000 million. However, the travel costs realised by tourists visiting these canals is more than £60,000 million. Therefore, the recreational value, estimated by using a travel cost method, is higher than the total level of the maintenance costs. So, we may conclude that the recreational value of these canals is much higher than is often assumed.
- * The recreational value of Dutch forests and heath (Van der Linden and Oosterhuis, 1987).
The authors did a survey using the contingent valuation method in the Netherlands and investigated the willingness to pay for the protection of Dutch forests and heath against the effects of acid rain. It turned out that the Dutch population is willing to pay Dfl. 1.5 billion every year for this purpose. This has nothing to do with the value of timber since this figure is only related to the recreational use of these nature areas.

Of course, one cannot argue that in these cases 'the' economic value of nature has actually been determined as there are too many uncertainties in these methods. However, we cannot overlook the point that these investigations give an indication of the high economic value people are presumably willing to pay for the protection of these environmental assets. It can be concluded that most tourists are willing to pay for visiting high quality nature areas and landscapes. This is recognised by the national park system in Costa Rica where the authorities recently decided to charge visitors an entrance fee of \$15. In the beginning, there were many objections, as people were afraid of a sharp decline in visitors to the national parks. It turned out, however, that tourists were willing to pay the fee. Since visitors have already spent a lot of money on the flight to Costa Rica and on lodging, they do not feel that another \$15 makes any real difference. In many cases, tourists see the fee as an effective instrument for the protection of the rain forests. It is much more difficult to use the rain forest for timber purposes when a lot of money can be earned from the entrance fee.

These examples lead us to conclude that modern tourists are, generally speaking, fully aware of the high value of national parks. They see the label of a national park as a guarantee of high quality nature and landscapes. Therefore it makes no sense to concentrate on low prices for tourists in the marketing process.

6 Conclusion

The previous discussion allows us to draw the following conclusions:

- * National parks should focus on the spatial and economic surroundings in which they function. Rural development is a concept with which national parks can expand their embedding in the region. Sustainable tourism can be evaluated as a serious option for the development of national parks.
- * In regions where sufficient economic and human resources for regional development are lacking, the establishment of big national parks without further rural economic development should be given serious attention, even in cases where ecological values are not extremely high.
- * Due to the concept of negative external effect, environmental issues are easier to describe and analyse in economics than the value of nature and landscape.
- * The concept of negative external effects is loaded with many assumptions which are not realistic when analysing modern problems in the field of nature and the environment.
- * Environmental disruption will negatively effect the ecological value of nature. Therefore we cannot take the economic value of nature as an independent category. The relationships between nature and the environment are varied and complicated.
- * The concept of sustainable development and sustainable tourism do not solve the conceptual and analytical problems in environmental economics and policies.
- * The concept of the contingent valuation method does not give a scientifically correct answer to the economic value of nature. Nevertheless, it can give us relevant information

about the value people in modern societies give to nature.

- * The development of sustainable tourism in and around national parks should be promoted by national park authorities in close cooperation with the inhabitants and authorities of the region. The results of contingent valuation methods demonstrate that asking money from tourists and visitors do not decrease their inclination to visit national parks.
- * A good marketing strategy is a prerequisite for sustainable tourism.

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