The Natural Environment & Heritage as tools for the management of Rural Development

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Abstract

The paper aims to set out the context of the management of the natural environment and heritage attributes as a deliberate strategy to provide economic and social gains for rural people. This is set against a background of environmental conservation as a specific type of development activity, which is consistent with other forms of sustainable community development, rather than antagonistic towards the ethos of development. Some of the main benefits are summarised, and the primary types of environmental management are considered in broad perspective. From this approach, a number of rural development strategies are identified for the management of the natural environment and heritage attributes. Each of these main areas of strategy is then illustrated using case studies to give examples of successful practices. These strategies include education, economic controls, economic incentives, legislation & regulation, and resource ownership. None of these strategies are mutually exclusive, and experience indicates that a more integrated approach could provide social, cultural, economic, and environmental gains without prejudice to the integrity of the natural environment or the broad principles of sustainability.

Introduction

Since the Industrial Revolution in the 19th century Western Europe we have seen gradual changes in the perception of the images of "development". From originally narrow economic confines we have moved to a much more all-embracing concept which includes issues relating to social, cultural, artistic, health and welfare, housing, infrastructure, educational, and environmental improvements. It seems too obvious to comment that the pursuit of economic gain, through business growth and entrepreneurial advantage has provided a central objective in most development schemes. From early development schemes to present-day integrated projects, even development initiatives which are not primarily aimed at financial gain, have been forced to measure their success at least partly on criteria of economic viability.

With the excesses of financial speculation at the expense of social conditions of workers and communities, there came a realisation of the need for social development. This has built upon the idea that some services and commodities can and should be provided on a not-for-profit basis. Subsequent successes in the "social economy" have shown that, far from being a "soft option" for development action, many social development initiatives have made substantial contributions to employment creation and investment, as well as stimulating creativity and self-confidence. As social development initiatives progressed from purely functional services to the aesthetic, the value of cultural development as an economic multiplier began to be appreciated (Gilg & Harrand 1988; Verhelst 1990).

This has led to the marketing of distinctive cultural characteristics and products as a form of economic activity e.g. cultural tourism (Sproull 1993).

Throughout this time it has been supposed by many that the natural environment was a neutral background for the context of human development. In situations where this has brought development aspirations into conflict with the requirements to protect the natural environment, then the latter has been most frequently regarded as being "counter-development" (Smith 1985; Mowle 1986; Smout 1991).

Only relatively recently, with the wider concerns of economic and social development expanding to consider the long-term sustainability of the development effort, has the natural environment come to be considered a distinctive form of development in its own right. (SCU/RSPB 1992, 1995; Rayment 1995, 1996, 1997; Rennie 1991, 1996; Wightman 1994; ASH 1991; Cuff & Rayment 1997.)

This paper explores further the contribution of the management of the natural environment as a development aspiration for rural communities, which is at least equal in importance to economic and social development within the wider picture of integrated resource management.

The Context of the Natural Environment in Rural Development

There are at least six fundamental considerations or caveats relating to the discussion of the management of the natural environment and heritage attributes in the context of rural development studies:

1. The environment is not just about birds and other animals. It is a totality of the living community of the planet and also the non-living materials with which it interacts (including rural land use and the built environment of urban areas).

2. In many localities, high quality natural environment does not occur in isolation from interaction with the human community. In most areas of the developed world and many areas of the developing world, the relationship between human society and the natural environment has been so pervasive that the environment bears traces of modification and/or damage which cannot be repaired by simply abandoning the locality to return to nature.

3. The management of the natural environment is long-term in both its needs and the prescriptive operations necessary to maintain a sustainable ecological balance.

4. The maintenance of a high quality natural environment is in the interests of rural dwellers as much as (if not more than) urban dwellers. The political balance of deciding who bears the brunt of the management costs for maintaining landscapes and biodiversity - the rural dweller or the urban dweller; the state or the individual - remains a merely a contentious issue of the management of externalities.

5. The fact remains that careful husbandry of the natural environment offers a potential source of rural employment and household income, though in many situations the precise nature of the market for environmental commodities (and also how to deal with assets which are non-commodities) remains very vague and politically difficult. (Pierce 1996.)

6. When we talk about the management of the natural environment, we should be careful to take into account not simply the owned land i.e. farms, forests, state land etc., but also the management of common lands (common grazings, public lands, parks etc).

The Benefits of the Natural Environment in Rural Development

There are three principal ways in which human society in rural areas (and ultimately society at large) may benefit from responsible practices in the management of the natural environment:

1. The importance of environment and heritage in its own right. This position is based solidly on the scientific principles of ecology, and stresses the need for human society to protect and maximise the biodiversity of the planet. Though ethically correct in terms of resource exploitation, this approach frequently creates problems in terms of who pays for such management, and who benefits financially from management activities.

2. The importance of the environment and heritage as a means of realising social and economic benefits. This issue forms the main focus for this paper as a radical approach to the integrated management of rural areas. While respecting the integrity of environmental protection and enhancement, this approach recognises that active management of landscape, wildlife, and heritage sites can be regarded as a legitimate strategy to produce employment, financial income and environmental products. Explicit in this argument is that environmental management may contain traditional commodities and also non-commodities (or natural capital) all of which should be husbanded in a sustainable manner consistent with the precautionary principle.

3. The contribution of the environment and heritage as a side-benefit of social and economic development in rural areas. This approach takes a compromise position between the first two, but this should not be regarded as a "soft option". In many ways this approach represents the status quo among progressive farmers and land-users who, while they regard economic targets (and to a lesser extent social aspirations) as their prime operational concern, they are also cognisant of the need to demonstrate environmental and heritage gains within the countryside. In a sense, this is the base line from which all other forms of environmental development must be measured.

Types of Environmental Management

While it is recognised that almost all forms of environmental management are exploitative (even simply selling a view of beautiful landscape), there are three basic types of management: protection, enhancement and interpretation.

Protection

The basic fallback premise is that environmental and heritage assets must be protected from any further degradation. Initially, in the history of the conservation movement, this protection was directed towards individual species which were regarded as threatened. Later this was widened to include the habitats upon which these species depended, largely in nature reserves, National Parks, and other special zones. In the latest (current) phase of environmental protection, this has been further extended to include the wider countryside i.e. the land outwith specially protected zones such as nature reserves. There has also been a comparable shift in emphasis in the conservation of the built environment, though it could be argued that this is more historically conditioned upon the individual items of heritage, and has yet to evolve into the wider responsibilities of contemporary heritage management.

Enhancement

For much of the countryside, the new swing towards integrated rural development and away from guaranteed payments for agricultural production, has opened up opportunities for both the improvement (reinstatement) and the creation of new habitats and sites which are managed for the natural environment and heritage potential. Though there is a clear distinction between simple protection and the proactive, positive action for the enhancement of environment and heritage value, in maintenance terms there is little real distinction between reinstatement of old sites and the creation of new sites of high value. There are, however, at least three major concerns related to the reinstatement or re-creation of sites of environment and heritage value. These are:

1. The question of historical credibility; put simply, how far back in time is it sensible, and permissible to refer in an attempt to recreate new habitat and heritage? There is a thin and transitory division between recreating the true heritage values of a locality, and harping back to a romantic (and mythical?) past.

2. The question of scientific credibility; is it ever really possible to recreate a habitat as an integral part of a wider ecosystem which has itself altered with the passage of time? The fundamental changes caused by e.g. the replanting of a deforested landscape, or a landfill of an open cast mine using fresh topsoil, are themselves subject to the more subtle influences of climate change, species depletion/extinction, and the ecological interaction beyond the boundaries of the restored site.

3. The question of political credibility; can it really be argued that the land users and people who benefited from the drive for production (through guaranteed payments and intervention schemes) should now also benefit when these funds are diverted towards wider countryside benefits? It is now widely recognised that the single-minded drive towards more intensive agricultural production has been directly and indirectly responsible for the loss of biodiversity and natural heritage value in the countryside.

With the switch towards the cross-compliance of agricultural and environmental values, and the introduction of schemes for Environmentally Sensitive Areas and Countryside Premium Schemes, it is conceivable that the same land managers who benefited financially from agricultural intensification, may now be set to benefit further from extensification. Meanwhile, the land managers who (for whatever reason) resisted the implementation of intensification, and in doing so protected and retained high quality environmental and heritage features, have been penalised rather than rewarded.

Interpretation

A third management opportunity, which is not in any way incompatible with either of the previous options, is to seek a value in the explanation, education, and interpretation of features or sites of environmental and heritage importance. This interpretation may be static (e.g. sign posts, display boards etc.) or utilising human resources (e.g. Countryside Rangers, guided tours, displays of restoration work, etc.) or may be multi-media (e.g. the increasingly common use of computer-based, interactive displays.). Together these may cover the domains of both educational and tourism activities. This is commonly manifested in "new" rural development issues such as "cultural tourism", "green tourism" and "eco-tourism". Though each of these would constitute a much larger discussion in their own right, there is generally a consensus that there is a growing trend towards low impact

activities which are environmentally and socially sustainable, and which contribute economic well-being, services, and facilities to both the visitor, and to the local community which is visited as a result of its environmental and heritage attractions.

Strategies for Environmental Management in Rural Areas

In addition to the main types or themes of rural management for environment and heritage gain, there are five general categories for the strategic development of environment and heritage as tools for the sustainable development of rural regions. Within these five categories, listed below, there is a growing range and diversity of individual initiatives, projects, and schemes for the practical implementation of the strategies at regional and local level, some of which will be sketched here.

Education and Persuasion

This is perhaps the oldest and most widespread method of securing gains to the heritage capital of our environment. Sometimes described as "the voluntary principle", the implication is that these methods are benevolent actions only, not resulting in any systematic financial gain, and indeed more frequently resulting in a cost to the land user for their adopted management strategy. Increasingly, however, it can be demonstrated that education, interpretation, and advisory services can pay real dividends in terms of employment, investment profits, and saved overhead costs.

As an example, the Coed Cymru Scheme is based upon an education and advisory service to enhance the management of broadleaved woodlands in Wales (Rayment 1997). The initiative was launched as a partnership between local authorities and national organisations to improve the status of the many small, farm-based native woods throughout Wales. These woodlands face special problems of management, including lack of awareness of the financial and environmental potential economies of scale in timber production, lack of management skills, competition from livestock subsidies, and fragmented woodland structure.

The initiative set out to achieve the sustainable management of farm broadleaved woodland by encouraging small-scale, regular work, under a continuous cover system, with natural regeneration and a diversity of tree species. It was necessary to demonstrate to woodland owners that management could be economically beneficial to the operation of their farm - or at the very least, that they would not be financially disadvantaged by such management options. In order to do this it is necessary to adopt a strategy for the marketing and utilisation of timber which is separate to the large scale commercial timber operations.

The initiative has been successful, both in commercial and employment terms. As an illustration, "40 tonnes of hardwood can be sold as pulp for £800. However, this could provide 10 tonnes of sawn timber which could fetch £2 000, with the remaining 30 tonnes fetching £600 as pulp or firewood. The 10 tonnes of sawn timber might fetch £2 500 if dried, £7 000 if converted to intermediate flooring material, or £12 000 as finished flooring." (Rayment 1997.) Furthermore, it is estimated that 290 jobs are supported in association with the scheme - 17 as Coed Cymru employees, 22 contractors, 15 farmers and 236 manufacturers. This does not include jobs which have not been associated with Coed Cymru, those which involve processing of residues and firewood, and/or management of timber other than Welsh hardwoods. These are substantial statistics for most rural areas, and are additional to the sometimes considerable value gained from supporting other

pluriactivity, or from the contribution of environmental, conservation, and landscape attributes which are enhanced and protected (and which are difficult to allocate a specific monetary value).

Economic and Trade Controls

These types of strategy have tended to be macro-scale interventions in public policy in an attempt to regulate, or at least modify, the impacts of agricultural (and to a lesser extent forestry) operations on the natural environment. By necessity, this form of strategy has intimate links with other strategic forms described here, such as regulation, and/or land ownership, and the implementation of trade controls should be viewed in that context.

An increasingly popular form of intervention, which is likely to have profound impacts upon local economies, is the practice of cross-compliance.

This term can be, taken to describe the attachment of environmental conditions to agricultural support policies (Baldock and Mitchell 1995). In principle the concept offers a mechanism of reducing the agricultural activities which are most damaging to the natural environment and heritage of the countryside, by the imposition certain environmental husbandry conditions upon the payment of agricultural support. In practice, this means making financial support for a farmer's food production dependant upon his/her participation in one or more of the various existing schemes which have been designed to ensure the maintenance of environmental and heritage benefits (Taylor and Dixon 1990).

Though cross-compliance was introduced in the USA in the mid-1980's, it has yet to be effectively implemented in the European Union, though the concept has many advocates as a means of reforming the Common Agricultural Policy away from purely production values to incorporate support for environmental and heritage assets (Taylor and Dixon 1990; Baldock and Mitchell 1995).

The arguments for and against cross-compliance are relatively complex, and are reliant upon the supposition of continuing state intervention in agricultural production, but this largely lies outwith the scope of this paper. In terms of the importance of cross-compliance as a control mechanism to stimulate the role of environment and heritage issues in rural development, the current position is rather negative. By definition, as cross-compliance is tied to agricultural support, then only recipients of such support will be able to be influenced by such a strategy. Advocates differ on:

a. whether cross-compliance should be a mandatory (red ticket) or a voluntary, additional scheme (green ticket) or a combination approach (orange ticket)

b. whether it should be outwith, or incorporated within the CAP

c. on the priorities of the environmental and heritage criteria in relation to agricultural operations and other land management options (Baldock & Mitchell 1995).

In terms of the value of the concept for proactive environmental and heritage management, the current limitations mean that such controls are selective, perceived to be an impediment to agriculture, and are reliant upon the continuation of state intervention for agricultural production. Viewed in these terms, there is little which can be done through cross-compliance to influence the land user who does not claim financial assistance for agricultural commodities, or in situations where the free market operates independently on countryside production.

At present, while control schemes like cross-compliance will undoubtedly help to contribute financial income to land user households in rural areas, (operating like a more widespread ESA scheme) there is little incentive to stimulate environmental and heritage development initiatives for their own sake, rather than as a modification or by-product of agricultural operations. This, however, is likely to alter substantially with the reform of the Common Agricultural Policy (CAP), convergence with the GATT agreement, and the more general adoption of initiatives such as the Countryside Premium Scheme (section Ownership and Management).

Economic Incentives

This is a very wide-ranging category which may in fact be incorporated within almost every other type of strategy described here. The general aim is "to provide sufficient economic reward/penalty to alter the behaviour of individuals to favour either a change of land use or modification in the current method of primary production" (Pierce 1996). There are many examples which could be selected to illustrate this strategy, not least the guaranteed payments, subsidies and intervention payments of the CAP and numerous production schemes operated by individual states.

One example which may point the way for future agri-environmental production is illustrated by the organic production of agricultural commodities in Sweden (Rudquist 1996). More than 2 500 farmers in Sweden have converted to organic production of crops, under a strict regime which limits chemical treatments and off-farm additives. The resulting products are certified by KRA V, an independent, non-commercial organisation, and are specially labelled for marketing. Despite obtaining a lower yield per hectare than non-organic commercial equivalent commodities, the organic product attracts a higher purchasing price. This is partly as a result of a price support scheme for organic commodities, and partly due to the higher retail price which consumers are prepared to pay for an additive-free product. In addition, although there are common costs in the ground preparation, the organic method saves costs due to lack of application of expansive chemical fertilisers or pesticides, while incurring greater labour costs on manual weed control.

Although the efficacy of this strategy will vary considerably with the types of crops and other commodities, there are general benefits for individual farm households in low-input/high-value-output production strategies (Raymond 1985). The challenge for the management of rural development is how to extend the exploitation of agricultural resources and other products of land management from a local level to a national or international level without compromising the integrity of the local strength of the environmental. heritage, and socio-cultural values. There have been some interesting initiatives under the LEADER 1 Programme (Pujol 1994, 1995) but generally these have been isolated examples of innovation, and it remains to be seen if the practice can make the transition to mainstream production without adopting an extractive, exploitative mode of production which works against local sustainability.

Regulation

This is perhaps the area which attracts most media attention - frequently centring around the "jobs versus environment" perspective. There is little doubt that the enforcement of environmental protection and/or the regulation of countryside activities for environmental purposes have strong supporters and detractors. Advocates of regulatory legislation argue that voluntary controls have

frequently failed to protect public interests and the natural environment. Added to this, there have been attempts to show how measures such as "the polluter pays" can be used to fund the enforcement process, and the respective employment opportunities. In contrast, detractors maintain that the added costs of measures such as Environmental Impact Assessment may be a crippling financial burden, particularly to small and medium sized enterprises.

Throughout the 1980's a large number of SSSI (Sites of Special Scientific Interest) were established throughout the UK as prime examples of special habitats and landforms. These SSSI were almost exclusively owned by private individuals and companies rather than by the State, but management operations within these areas were closely controlled by legal regulation orders. A considerable controversy arose in certain areas of the country, notably in the Highlands and Islands of Scotland, where farmers and other land users perceived that these regulatory restrictions would prevent them from realising the full development value of their management operations. The conflict has been well documented (e.g. Robinson 1990; McCeachern 1992; Mather 1993) and will not be reviewed here, but it has been fairly well demonstrated that, in reality, SSSI status has resulted in very little practical difference in terms of the use and management options for such land relative to comparable non-SSSI land areas (Mather 1993).

It is still a sufficiently controversial subject to provoke a stormy debate as to the merits of mandatory regulation versus voluntary agreements (such as the Countryside Premium Scheme -see section Ownership and Management). Viewed objectively, however, it is possible to highlight several specific operations by which SSSI notification has contributed financial income (direct and indirect) as well as consequent employment opportunities.

Management Agreements

Under this option, farmers and other land users who have an SSSI on their land and who are restricted by the terms of its regulation in their normal land management operations, may be entitled to compensation for their anticipated loss of income. In practice there are severe drawbacks to this system. Firstly, there is the problem of the State subsidising private landowners for not doing something on their own land (termed bribery, or blackmail by detractors). This has raised many questions regarding the proper use of public funds and the appropriateness of the management of national resources being subjected to the whim of private financial interests.

Secondly, the value of the compensation is normally set at a level which is equivalent to the loss of income which would result from the damage to the SSSI by a destructive operation. In practice this means that compensation payments are generally low - set at agricultural or marginal forestry values - rather than at a much higher monetary figure which would represent the environmental value of the site to the nation (Rennie 1986). Most of these divergent opinions have yet to be resolved satisfactorily in many areas of the country.

Investment in Natural Capital

The benefits to local economies have been closely investigated in recent years for a number of specific localities in Scotland (ASH 1991; Crabtree et al. 1994). A large part of the problem in quantifying such benefits lies in the difficulties in measuring direct versus indirect and implied benefits. For this reason, most studies are site-specific in order to limit the under-evaluation of the indirect benefits of environmental management which accrue throughout the wider countryside. It is

obvious. therefore, that most such studies systematically underestimate the financial and employment value of the management of wildlife, landscape, heritage sites and other natural assets.

In one study of three case study areas of rural Scotland (Crabtree et al. 1994), there was an attempt to calculate the economic impact which could be attributed to the wildlife attractions of each area. Three main types of direct additional income which could be attributed to the wildlife resource were identified as:

a. expenditure associated with visitors attracted to the locality specifically due to the wildlife resource e.g. entrance fees, activity holidays, etc

b. public expenditure transfers under agricultural policy, e.g. ESA-payments, and farm conservation grant schemes

c. payments to protect and support designated sites, usually made by government areas and/or local authorities under management agreements.

Several recent studies have demonstrated a considerable variation in the economic impact of the wildlife resource, which varies not only with the total number of visitors, but also with the duration of their stay, the economic status of the visitor, and the distance travelled to reach the locality. Nevertheless, it has been demonstrated that the designation of "conservation sites" through regulation and national legislation can be an important economic contributor to the local economy of individual rural areas. Care requires to be taken in adopting this as a regional management strategy due to the strong dependence upon the unique attributes of each individual site, as well as the possibility of competition between sites, and the dangers of damage through over-promotion and over-exploitation (Crabtree et al. 1994; Mather 1993; Rayment 1995; Tourism & Environment Task Force 1997).

Ownership and Management

In an increasing number of situations, owners and managers of land, and or heritage sites, are attempting to respond to a perceived public demand for environmental and heritage commodities, as a by-product, a side-line, or even a replacement for their main business interests. Many of these initiatives are tourism related (LEADER 1997) but by no means is this exclusive. Due to the special nature of the demands of ownership, several schemes have been established throughout the European Union in order to assist land managers with the capital and revenue investment which is necessary in order to create and maintain environmental and heritage features for the public good. This has become important because the intensification in the management of farm, woodland, and aquatic resources has led to an erosion of countryside features which, though regarded as traditional, or even desirable, are not cost-efficient in the terms of commodity production.

The Environmentally Sensitive Areas (ESA) and Countryside Premium Scheme (CPS) initiatives are both geared towards encouraging land users to adopt environmentally friendly management practices within their normal operations. The ESA scheme is targeted at specific areas of countryside which have been identified by government agencies as having a high value of natural environment and heritage, due in part to the intimate relationship with human land use in that area. The CPS is a complementary scheme, similar in content, which operates throughout Scotland in areas which have not been designated Environmentally Sensitive (SOAEFD 1997). Both schemes operate by agreeing

with the land user a package of management operations within the context of the whole farm or croft which will create, enhance, and maintain valued habitat and environmental features. Many of these operations, such as the repair of dry-stone walls, management of scrub, and upkeep of access areas would normally be regarded as marginal to the normal business of the land use, and therefore an unnecessary financial burden for little business gain.

Looked at in terms of the wider countryside, however, the incremental gain of these environmentally friendly operations can produce significant benefits for comparatively little financial support. This, however, is not without problems and contradictions in support, e.g. the incentives to maximise sheep production under the CAP (BignaI1996).

One example of the environmental benefits of this scheme is the manner in which habitat management has been improved to support a rare species of bird, the corncrake (Crex crex). This is a distinctive grassland bird which has been declining throughout Britain during most of this century and is now almost entirely restricted in its breeding localities to the Western and Northern Isles of Scotland, as well as sites in Ireland. Crofters (small-scale farmers in the Highlands and islands) and other land managers have been encouraged to adapt grazing patterns and the harvest of hay or silage for winter fodder to suit the behaviour of the corncrake. A small financial incentive is given to crofters who delay cutting hay/silage until after July 31st in order to allow the birds to hatch their eggs (which are usually laid in summer grassland). An additional incentive is also paid to encourage the use of corn cake-friendly mowing methods (from the centre of the field outwards, or in strips) which allow the corncrake chicks to escape from being killed by the mower.

A pilot initiative has been incorporated within the ESA scheme, and by this simple method many crofters are able to obtain a small additional income without any major inconvenience to their normal operations. The scheme has been running for five years, and its success is proven by the fact that corncrake numbers in Scotland have risen in 1996 for the third year in a row, in some localities to twice the population which was known 10 years ago, giving at least some grounds for hope that this species can be saved from extinction (RSPB 1997).

In a completely different initiative, (Rayment 1996) the Royal Society for the Protection of Birds (RSPB) have developed the mountain estate of Abernethy, south-east of Inverness in the Scottish Highlands, as an example of environmental employment in rural development. The estate covers 12795 hectares of pine woodland, heather moor, and mountain habitats. Over the past 40 years the locality has been important as a breeding site for the osprey (Pandion haliaetus) which could accommodate discrete observation by the general public. Over the past decade, the RSPB, through their ownership of the estate, have changed the focus of estate income from primarily sporting - hunting of red grouse (Lagopus lagopus scoticus), red deer (Cervus elaphus) and roe deer (Capreolus capreolus thotti) - and timber extraction, towards a greater reliance upon the environmental and heritage attributes of the locality.

When managed for sporting purposes alone, the estate employed only one full-time gamekeeper and one seasonal assistant. Abernethy Estate currently provides direct employment for 11 full-time equivalent (FTE) jobs and a further 24 indirect FTE jobs. In addition, local spending by the estate and by staff provides further income to the local economy which helps to support local suppliers, contractors, and local businesses. The direct employees include nature wardens, a deer-stalker, domestic staff, and people employed in the operation of the osprey visitor and information centre.

There is a significant activity in the creation and management of different types of habitat in the state, and though this will lessen over the next five to ten years, there will be continued (perhaps increased) opportunities for surveying, research, visitor access, and educational employment.

Conclusions

The changing appreciation of successful development initiatives has resulted in an awareness of the management of the natural environment and heritage features as a legitimate form of development activity in its own right (i.e. "conservation" need not simply be a counterbalance to development.

Due to the difficulties in the commoditisation of environmental and heritage products according to normal market values, the investment structure for, environmental and heritage activities, acts imperfectly according to traditional market systems. Nevertheless, the mismanagement of natural resources can be interpreted as a type of market failure, with all which that implies for sustainability, long-term planning and public welfare.

Due to the fact that only a small proportion of the countryside can pragmatically be managed exclusively for environmental and heritage products. the overall success of this sector is dependent upon achieving land-use practices which meet the needs of human society as well as ecological communities.

Management strategies for environmental and heritage commodities produce a concrete range of benefits which can accrue to human society through a sympathetic development process. These benefits are normally thought of in terms of state investment in environmental conservation and/or transfer payments from other countryside activities, but direct benefits such as employment in eco-tourism, education, interpretation, and environmental management suggest a large untapped potential for future community improvements.

Environmental and heritage strategies which contribute to the management of rural development are therefore a type of public good which explicitly recognised in public policy and planning, both for its own importance and also for the associated benefits to economic, cultural development sectors.

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