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**The Treatment of Environment by planners: evolving
concepts and policies in development plans**

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SECTION I

Environmental issues, environmental sustainability and development plans

"It may be unfashionable to think that we owe anything to our future descendants; but if we only produce something really worthy of humanity to-day, we may be sure that posterity will honour us for its inheritance"

Patrick Abercrombie Greater London Plan 1944 p. 179 para 483

1.1 The planning system, plans and environment

The land use planning system uses regulatory power to contribute to the management of environmental change in localities. It is thus apparently central to the contemporary environmental policy agenda. Yet the planning system's scope is both wider and narrower than this agenda, and there are considerable challenges to be faced in developing a planning response to these new concerns. Further, the assumptions and content of the current environmental policy agenda are themselves contested (Owens 1993, O'Riordan 1993, Blowers 1993). There are consequently different ways in which it could be developed in the context of the planning system.

This paper seeks to identify the significance of those aspects of the new environmental policy agenda which fall within the remit of the planning system, and then to explore the difference between these concerns and earlier ways of understanding the environment in the planning system. It focuses particularly on the development plan, as the core strategic tool of the planning system and a key locus for the definition of its objectives.

Some aspects of the contemporary environmental policy agenda have a long history in the planning system. One task of our review is to assess how the system's environmental agenda has evolved in the second half of this century, and how effectively it has been pursued in relation to other objectives within the system. A second task is to identify what is new about the contemporary environmental policy agenda with respect to land use planning, and to assess what might encourage and what might inhibit its effective incorporation into the objectives and practices of the system.

The planning system in Britain consists of a set of procedures for formulating plans and determining applications for development. The objectives and scope of the system are determined by government policy and local interpretation, underpinned by legal review. As a result, very little is specified as to the scope and content of planning policy, other than that its regulatory focus is on the use and development of land. Exactly what this means, and how it could relate to the social and environmental processes which generate land use and development, has always been a matter of controversy. But at a minimum interpretation, the system is centrally concerned with the location of development, and with its characteristics, with what goes where and on what terms.

The role of the development plan, in this minimalist interpretation, is to provide the framework within which the criteria for making regulatory decisions can be established. It has consistently had a threefold function, at least in theory; firstly to provide a strategic and long-term context to decision-making with respect to land use change and development, secondly, to link land use allocation and the terms of development to economic, social and environmental considerations, and thirdly, to provide a means to coordinate and regulate the flow of development projects. However, in practice, the emphasis on this strategic and coordinative role for plans has fluctuated. The history of the postwar planning system is of periodic rediscovery of the importance of plans, after periods when their strategic content was allowed to lapse, and when their role in making regulatory decisions was diminished. The late 1940s, the 1960s and the 1990s are periods when plans have been emphasized. The 1980s, in contrast, was characterized by a diminished status for plans and strategic planning policies (Thornley 1991). During this period, however, major changes were underway both in the forms of development and ideas about the environment. The "return to plans" of the early 1990s has provided an opportunity for these new pressures and concepts to be translated into planning strategies and policies, encouraged by government statements supporting plans and the new legislative position of the plan in the 1991 Planning and Compensation Act.

Development plan-making involves interrelating issues, or "claims" for policy attention, arising from social and economic processes and concerns for the environment, in terms of their implications for the location of development and the terms on which it should go ahead. This inevitably means a concern with the qualities of places. This requires conceptualising social-spatial relations as these change over time. This is a difficult task, both intellectually and institutionally. The history of planning thought and practice is a history of different conceptions of the economic, the social and the environmental, and of the relations between them. It is also a history of different political emphases given to particular aspects of these conceptions and relations, and of different traditions of policy instruments and their implementation. The planning system in Britain, with its distinctive discretionary form, has in effect been a site of struggle over the agenda of land use planning and over who defines that agenda. In this struggle, the key locus of power is the central government political-administrative nexus, and the professionals, although local government has had an important role in innovation. As in any policy area, these struggles have been played out in the context of the broader evolution of competing general political philosophies concerning the relation between state, business, citizens and nature.

The meaning of the term environment in the planning field has always been problematic. On the one hand, it is used broadly, implying the economic, socio-cultural and physical attributes of the milieu in which daily life and business are conducted. It is also used to mean specifically the built and natural environment. The environment in this narrower sense has been a central preoccupation of the planning system in Britain this century (Hebbert 1992).

Both plan-making and environmental issues have been given a new salience in the planning system in Britain since 1989, as a result of the problems resulting from the backlash of the property boom, and the government's own greening strategy. In its recent advice on development plans (DoE 1992a), the current environmental agenda appears to be warmly embraced. The professionals too are rapidly absorbing the concepts and terms of the new agenda. But there are several alternative ways in which this infusion of new ideas may be absorbed into the planning system. Topics can be selected for policy attention and

incorporated under existing headings and interpreted in the terms of existing conceptions. Alternatively, new concepts derived from contemporary environmental debate can transform the overall conception of the planning agenda. As noted above, the environmental debate itself reflects different conceptions of the environmental challenge, and there are critical struggles underway over the concepts and content of the environmental agenda in other areas of public policy. It thus matters how far the environmental debate transforms the planning agenda, and which environmental conceptions could and should infuse the planning system. The planning system in turn is a significant arena within which the struggle over the meaning and the leverage of environmental policy is being played out□.

It is thus important to analyse the development of the environmental agenda in the planning system in relation to both dominant conceptions of the system's purposes and policy preoccupations, and its powers and processes. It is also necessary to see the system in context, in relation to related policy systems, such as agriculture, the minerals sector, industrial development, and pollution control. The institutional tendency in Britain has been to separate out key "sectoral" considerations, and create special procedures alongside or within the system. It is these considerations which have typically defined the "national interest", of "acknowledge importance", which could override local interests□. One consequence is that integrating considerations which cut across sectors is problematic. Land, development and environmental questions are particularly difficult to address in such a sectoral context. In the 1980s, there have been further tendencies to fragment responsibilities for the management of environmental change□. Specifically, the Integrated Pollution Control regime introduced under the Environmental Protection Act 1990 has created a parallel regulatory regime alongside the planning system. While this introduces some useful developments, such as the requirement for public information on environmental conditions, it by-passes the planning system's balancing task, and the public consultation, debate and inquiry which accompany this (DoE 1992c). Such sectoralization makes it more difficult to identify and address the intersectoral impacts of particular policies and decisions.

1.2 The contemporary environmental agenda: sustainable development and ecological modernisation

There are thus major debates about the nature of the environmental "problem" and ways to address it. These strike at the heart of much of modern philosophy and public policy, forcing not only a challenge to the "drive for growth" embodied in capitalist economic relations, but an explicit confrontation between scientific knowledge and instrumental rationality and moral values□. In the 1970s, this debate was cast in terms of a choice between economic growth and environmental conservation. The range of positions in these debates was wide-ranging (Stretton 1978, O'Riordan 1981, Sandbach 1980, Sagoff 1988). In an attempt to order them, O'Riordan proposed a division into an ecocentric position, which argued that all social relations and hence public policy should be seen in the context of the maintenance of ecological relations within which the human species is but one among many natural organisms, and a technocentric position, within which it is assumed that human technological capacity will discover the means to remedy any adverse environmental effects generated by economic activity (O'Riordan 1981).

In the 1980s, these debates have become more complex. Both positions have come under pressure in the search for some way of "balancing" economic development and environmental

conservation, at local, national and global scales. In Britain, the dominant concept now used to describe this goal is the principle of sustainable development. This principle has been vigorously embraced by British central government since the late 1980s (Secretaries of State 1990), and has also been promoted through EC policy debate and initiatives. In parallel, local government and professional debate in Britain has progressively absorbed the concept. However, the distance between rhetoric and practice remains large. The concept itself is elastic in definition (see Pearce et al 1989, Jacobs 1991), allowing many interpretations. In the planning field, it has been used as much to recover long-established concerns - with the long-term, with social impacts and with democratic debate, as to introduce new criteria and perceptions.

The concept of sustainable development was first articulated in the late 1970s and then publicised in the Brundtland Report (1987). This argued that economic growth and environmental conservation were not simple opposites, but that forms of economic development could be chosen which would sustain the environmental capacities and relations needed for future generations.

"Humanity has the ability to make development sustainable - to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987 p. 8)

The problem has been to give precise meaning to such a broad ambition. Some argue that the search for precision is counterproductive, since the power of the concept lies not only in its breadth, but in its ambiguity. This provides a potential to command widespread support, as people interpret it differently, yet it can lead to confusion in implementation and/or control by particular groups seeking a specific interpretation. As Hajer (1992) argues, the Brundtland conception provided a powerful storyline with a wide influence. However, once the idea has been adopted in a general way, as in the British case, its actual influence on social life depends critically on its interpretation. Precision in operational meaning in specific contexts is therefore essential to develop a critical perspective from which to evaluate the forms of policy implementation.

Within the struggle over meaning, there remain arguments which challenge the concept of sustainable development, or ecological modernisation, from an ecocentric perspective. Such a "deep green" position presents a fundamental challenge to the principles of capitalist organisation and technological development. The attempt to make development sustainable is itself unacceptable from this point of view. Of more significance to the evolution of contemporary public policy are the different interpretations of the concept itself. Although these remain varied, it is possible to identify broadly two directions. The first represents a technicist interpretation of the concept, in which environmental conservation criteria are balanced, or traded-off, against economic development criteria. It focuses on the identification of stocks of environmental assets and their valuation, using the language of environmental economics and instrumental rationality, and it harnesses "good science" to its purposes (DoE 1993). The second more radical perception emphasises the constraints on human activity which must be accepted if ecological (or biospheric) systems are to be protected from further life-threatening deterioration and maintained as a resource for future generations. This focuses policy attention on the carrying capacity of ecological systems, the ecosystemic relations through which environmental assets are used and the social relations through which they are managed. It emphasizes the management of demand within capacity

constraints, and uses the language of natural science and moral discourse. It reflects different conceptions of the relations between people and nature than those embodied in the faith in technology and "good science". It is these ideas which are already vigorously developed in policy debate in Northern Europe (see Nijkamp et al 1992, Despotakis et al 1992). These two directions are often mixed in contemporary comment.

The Brundtland report, and many subsequent users of the concept, also emphasise its significance in relation to social systems per se. This focuses attention on whether particular economic relations are able to reproduce themselves over the longterm and lead to improvements in economic welfare, and whether social practices improve or threaten the material, moral and aesthetic welfare of the peoples of the planet (Redclift 1987). This too embodies a challenge to an over-emphasis on narrowly-conceived economic growth and material welfare. Hajer (1992) argues that the ecological crisis embodies two elements:

"the physical component of real environmental degradation and the social component of a new perception of the relation between environment and society" (p.31)

This wider perspective has encouraged the use of the term "ecological modernisation" in German debate, to encapsulate new directions in the framing of social and economic relations to incorporate contemporary understanding of the significance of ecosystemic or biospheric relations (Janicke 1988, Hajer 1992). The emphasis on the general sustainability of economic and social practices, while very important, is more familiar territory to the social scientist and planner, and is being developed in debates on the post-industrial/post-modern society. However, if debate is pursued entirely at this level, the issue of the complex relations between human systems and natural systems, which lies at the heart of the environmentalist challenge, may be neglected. Along with Jacobs (1991), we argue that, in order to develop a perspective from which to critique the operationalisation of the concept of environmental sustainability in the planning field, it is valuable to concentrate on the core ecosystemic meaning of the concept.

In developing such a critical approach, Jacobs identifies three elements to the meaning of sustainable development:

1. "the entrenchment of environmental considerations in economic policy-making"
2. a commitment to "equity", and the fair distribution of both wealth and the effort in conserving resources, both in terms of local and global space, and intergenerational equity, and
3. a commitment to economic development as opposed to economic growth, the former term implying a "notion of economic welfare that acknowledges non-financial components" (Jacobs 1991, p. 60/61)

Jacobs recognises that, defined in this way, the concept of sustainable development challenges dominant conceptions of economic policy and economic management. His book is in part an attempt to sort out exactly when dominant economic traditions must be abandoned, and when they are useful. In attempting a more specific definition which can be translated into criteria with which to evaluate specific policy measures, he argues:

"Sustainability means that the environment should be protected in such a condition and to such a degree that environmental capacities (the ability of the environment to perform its various functions) are maintained over time: at least at levels sufficient to avoid future catastrophe, and at most at levels which give future generations the opportunity to enjoy an equal measure of environmental consumption" (Jacobs 1991, p. 79/80)

This formulation echoes Malthusian concerns with limits on population growth, although Jacobs' emphasis is more on the way people live than how many of us there are. At a practical policy level, his definition moves beyond a balancing conception, towards that of carrying capacity with implications of limits, linked to relations, rather than stocks. Jacobs then defines environmental capacities and functions in "biospheric" terms. The "environmental crisis", Jacobs argues, has arisen because human activities are reducing the "abundance" of the biosphere upon which human life (including the prospect of improvements in economic welfare) depends. This biosphere performs three principal functions:

1. it provides resources

- non-renewable (eg: fossil fuels)
- renewable, so long as critical thresholds are not exceeded (eg: clean air, water)
- continuing (eg solar energy)

2. it assimilates waste products

3. it provides various environmental services

- amenities (eg: recreation space, space for aesthetic enjoyment)
- life support services (eg: stores of genetic diversity)

(Jacobs 1991 p. 3-5)

This list generates an agenda of impacts to be considered whether the objective is a balance or trade-off, or demand-management within capacity constraints. Jacobs' concern is to search for practical strategies through which to avoid natural catastrophe while promoting intergenerational equity.

The concept of sustainable development interpreted in this way offers a new approach to the traditional planning challenge of relating the economic, social and physical dimensions of human existence. It emphasises the processes of environmental management, and the connection between specific actions and ecological relations and capacities. It introduces new criteria within the planning calculus, grounded in both natural science and non-utilitarian conceptions of welfare. It challenges notions of planning as an exercise in merely balancing conflicting interests understood in simple trade-off terms, and emphasises ecological relations, environmental limits and capacities. It thus forces consideration of projects in their environmental, social and economic contexts, rather than as self-contained on their sites. In effect, it encourages a new discourse and new debates into the planning field, focused on the impacts of development.

However, operationalising such concepts, even within the above definition, is no simple task. This arises for two reasons. Firstly, scientific knowledge about critical natural environment thresholds and impacts on hydrological, climatic and ecological systems is uncertain and often contested (Blowers 1990, Jacobs 1991). Further, governments, particularly in Britain,

lack information on many of the key dimensions of local environmental capacities. Secondly, because the concept challenges established practices and power relations, there are forces seeking not merely to avoid its rise to public policy dominance, but to impose particular interpretations on it. As Hajer (1992) argues, the Brundtland concept of sustainable development

"defines environmental problems as technical problems and has a firm belief in the problem-solving capacities of growth and technology" (p.10)

It can be interpreted in technicist ways, to minimise the challenge to established economic and political relations. Yet many argue that these relations are environmentally unsustainable, and that if there is any reason to believe this, the morally correct path is to adopt the precautionary principle, to limit the damage. This moves the policy agenda beyond remedial efforts, to incorporate environmental criteria into all areas of economic and social life. It implies a progressive transformation of modes of production and of policy principles, rather than merely an accommodation to new perceptions of environmental limits. It is this latter task which is embodied in Jacobs' conception of sustainable development, and in the radical versions of ecological modernisation sought by Hajer (1992).

A radical version of sustainable development/ecological modernisation would thus move beyond conceptions of "stock maintenance" and repairing and compensating for environmental damage caused by development. It would emphasise technological modernisation, and the introduction of new production and consumption processes and practices (Hajer 1992, Janicke 1988). Such an approach would accept the need to incorporate non-material as well as material conceptions of welfare and public interest and would alter the balance of power between the exploitation of resources for profit and their stewardship for future generations. Because it involves all our behaviour, and our relations with each other as well as with the ecosystems which sustain us, democratic process is critically important in public policy development. This would allow the many rather than the few to identify and discuss what are appropriate standards and criteria, given both the uncertain knowledge available about many environmental conditions and processes, and potential distributive problems of adopting more ecologically sustainable strategies.

Thus, the concept of sustainable development must itself be seen as a site of struggle between strategies which would allow powerful economic interests to accommodate the new environmental considerations (technocorporate tendencies), and more radical strategies targeted at these relations of production themselves. This serves to emphasise a point made strongly by Jacobs(1991), Blowers (1990), Hajer (1992), Flyvberg (1992), O'Riordan (1993), Owens (1993) and many others that the realisation of environmentally sustainable strategies is not a problem of technology or ecosystemic understanding, but of moral and political philosophy, of politics, institutions and the articulation and implementation of public policy.

1.3 Environmental sustainability and planning debate

The planning system is a key arena within which these struggles over the interpretation of the concept of sustainable development are currently being played out. The system has a long history of managing the relations between "environment and development" and of "balancing" different criteria within a regulatory regime for managing land use and

development change. Some currently argue that the planning system now needs to be replaced by a more comprehensive system of environmental management. However, there has always been a tension between treating planning narrowly as a "sector", dealing with land use and development change, and linking it to broader approaches to managing urban, rural and regional change. Whatever the solution to this organisational problem, it is important to explore what the implications of sustainable development are for the heartland of land use planning concern, regulatory decisions with respect to the location of development projects and the terms upon which development and land use change is allowed to proceed. This requires consideration at two levels,

1. the "entrenchment" of "environmental" principles and criteria in the balancing of claims and considerations when making decisions on development projects, and
2. accommodating the new development forms and conservation priorities arising from the pursuit of environmentally sustainable strategies.

There is currently an explosion of discussion in the planning field seeking to identify the implications of incorporating the new environmentalism in land use planning. The EC Green Book on the Urban Environment captures the debate in the planning community of many European countries with its mixture of long-standing concerns for the quality of the built environment, and the new biospheric agenda (CEC 1990). While several European countries used the environmental agenda to re-emphasize traditional concerns for the conservation of the built and natural environment, others have been substantially ahead of Britain in operationalizing biospheric environmental policies in spatial planning (Nijkamp et al 1992, Orrskog and Snikkars 1992, Marshall 1992a). In Britain, discussion was slow to move from a traditional agenda, but rapidly shifted in the early 1990s. An indication of the speed of development of ideas can be seen by contrasting the planning section in *This Common Inheritance*, which barely touches on the new agenda, and *Planning Policy Guidance 12* (DoE 1992), which has a broader and much more informed approach. The pace of innovation has speeded up in planning practice. Rydin (1992) and Marshall (1992b) identify what are in effect tentative steps in incorporating new policy criteria. By 1993, the County Planning Officers were using the language of carrying capacity (CPOS 1993, Williams 1993a, b) and government ministers were firmly asserting the needs to limit CO₂ emissions and car use within regionally established thresholds.

In British planning debate, discussion tended to focus in the early 1990s on two issues; firstly the relation between energy conservation and pollution reduction. This focused attention on the relation between land use and transport, (OECD 1993, DoE/DTP 1993; Breheny ed 1992), and more generally the relation between urban form and environmental sustainability (Breheny 1992, Breheny ed 1992). This reflects the significance of energy use in consuming non-renewable resources and in local and global pollution. Government interest in the land use/transport relationship arises also from more than merely environmental concerns. It also reflects its anxiety to limit public expenditure on transport infrastructure.

The environmental agenda implied in Jacobs' approach to the environment's biospheric functions suggest a broader approach to identifying the way the planning system intersects with environmental issues. Such a broader approach is evident in the recent work of several scholars seeking to elucidate the intersection (see Owens 1992, 1993, Orrskog and Snikkars 1992, Rydin 1992, Marshall 1992b). The advantage of Jacobs' approach is that it makes clear

the connections between assumptions about ecological relations and the implications for planning decisions.

In Figure 1, the implications for each of the biospheric functions identified by Jacobs (see previous section) is reviewed in terms of the location and form of new development and redevelopment, and the terms on which development might be allowed to proceed. In summary, this analysis emphasizes that regulatory land use planning systems potentially have a critical role in:

1. dealing with a whole range of local site-related matters, notably conservation of resources and environments, and fostering locational patterns which minimise energy use and pollution generation, within appropriate local and regional capacity constraints.
2. "balancing" the details of environmental, social and economic considerations in relation to specific development projects,
3. promoting and managing the maintenance and enhancement of local environmental qualities,
and
4. dealing specifically with the locally adverse impacts of environmentally desirable development.

However, as many studies now emphasize, the specific agenda and content of appropriate policies can rarely be derived from a general check-list. How far particular policies will achieve environmentally sustainable objectives will depend both on the relations of local natural ecosystems and on the social and institutional relations through which land use planning actions are taken. Land use planning action can have a significant impact on achieving environmental objectives, but usually only if combined with strategies for other sectors at national, regional and local level (Nijkamp et al 1992, Orrskog and Snikkars 1992, DoE/DTp 1993).

It is further evident that "entrenching" the new environmental agenda within the planning system does not mean merely adding further topics or subjects onto the planning agenda, a form of check-list approach. It requires that the whole discourse of planning discussion itself is changed, and has wider implications for the broader philosophy of public policy.

One way this could be done is through a "balancing" approach, reconstituting the agenda of criteria to be balanced in decision trade-offs. Moving in this direction is certainly valuable, as it will force consideration and measurement of the practical dimensions of many of the issues currently discussed as general principles. The more radical approach discussed above however involves reconstituting the terms of the trade-off process itself, incorporating concepts of demand management and carrying capacity, and emphasizing moral and aesthetic values as well as a technical calculation (Owens 1993). It is at the point of the movement beyond technical calculus that the struggle to absorb the new environmentalism in planning meets the debates on post rationalist planning processes (Healey 1992).

Figure 2 identifies the main areas of action which need to be considered in any local planning strategy which aims to achieve a more radical approach to environmental sustainability.

Several of these areas are long established roles for the British planning system, notably conservation, shaping the locational pattern of development, accommodating particular types of development, and promoting particular qualities in development.

Figure 1

Figure 2

The areas of action for land use planning systems in environmentally sustainable strategies

1. Conservation (of resources and functional/cultural amenities)
 - of sites
 - of environmental qualities
 - of building qualities
2. Location of development
 - to conserve energy/reduce pollution
 - to promote pollution reduction
 - to provide amenities
 - to promote biodiversity
 - to limit development within capacity thresholds
3. Definition of the spatial areas within which capacities are to be limited and targets met;
4. Identification of sites for environmentally desirable development
5. Promotion of environment-enhancing qualities in all development
6. Compensation for the distributional effects of strategies which are environmentally beneficial in other respects.

Further, it is these tasks which the system has been most effective in achieving (Hall et al 1973, Healey et al 1988, Pearce 1992). This might suggest that regulatory action through the planning system is a particularly effective mechanism within which the objectives of sustainable development can be accommodated. It was just such an argument which the British government put forward in seeking to resist the introduction of Environmental Impact Assessment legislation by the EC. The development control system, it was claimed, was already an effective mechanism for considering the impacts of a development project□.

If the above were correct, then the innovative attention for contemporary planners and planning policy makers should focus on the two less familiar areas of action in Figure 1, introducing areas within which pollution control targets should be achieved and emphasising alleviation and compensation for environmental damage. To some extent, this is already happening. There is now considerable discussion of the need to link "environmental permitting" and the new Integrated Pollution Control machinery more closely with the planning system□. Meanwhile, there is a strengthening tendency to consider all development proposals in terms of their economic, social and environmental impacts, and to negotiate measures to alleviate or compensate for those impacts where a project is otherwise in line with established planning policy□. The development of impact identification techniques and arguments in effect reconstitutes the approach to "balancing" in the planning system, in line

with the less radical version of ecological modernisation (see CPOS 1993, and Williams 1993a, b). The influence of EC legislation in this area and the requirement for its adoption within British law has been a major factor in promoting these ideas.

However, on closer examination, the planning system's record in achieving environmental objectives in the past provides only limited reassurance about its capacity to meet the demands of the strategies of sustainable development. As discussed above, the planning system's powers have regularly been constrained, to protect the interests of powerful business sectors and to promote political priorities. The very flexibility of the system's form allows the distortion of broad objectives through implementation.

Firstly, the discretionary nature of the planning system results in a lack of precisely defined objectives and purposes. It is in effect a set of procedures with considerable elasticity to accommodate national and local objectives. This elasticity is expressed in policy phrases such as "normally" and "overriding public interest". This leaves considerable scope to interpret environmental objectives in ways convenient to powerful interests, and to redefine the economic dimensions of those powerful interests according to economic conditions. There is much evidence that this is currently happening in DoE modifications to development plan policies, which are weakening statements which seek to insert a "precautionary" principle in some form, challenging the presumption in favour of development□.

Secondly, the planning system is highly centralised, and critically dependent on the attitudes and objectives of central government ministers and civil servants. This reduces innovative capacity (Grant 1992). Central government is currently following behind ideas being developed both on the continent, and in a few British local authorities (eg Kirklees, Sutton). But these initiatives have been taken outside the planning function, primarily in the production of local environmental strategies or charters. Planning staff have been uncertain what principles could legitimately be incorporated in plans as decision criteria for development control.

Thirdly, the system's strongest powers relate to the regulation of private development projects. Its powers with respect to public sector development and to the promotion and enhancement of development are limited (Healey et al 1988). In particular, there is a major conflict of interest between the local authority role as land owner and developer, and as planning regulator.

Fourthly, it is in any case taking time for planning staff themselves to understand what the issues are and how they might be incorporated in plans. The response to political pressures to "turn development plans green" has often been little more than tokenist, shifting chapters called environment around in the order of subjects in a plan, or asserting environmental objectives for a plan, without much follow through (Myerson and Rydin 1993).

Fifthly, government continues to fragment responsibilities for the management of environmental change (pollution control, the specific procedures for the water and energy industries, and, in the past, the special procedures within the planning system for dealing with mineral extraction and agriculture). Where business interests are concerned, the tendency continues for government to remove areas of environmental regulation from the very public arena of the planning system to arenas where regulator and regulated together determine how

the regulation is to work. In effect, there are different regulatory regimes (Francis 1993) being used to address the regional and local dimensions of the new environmental agenda.

Beyond these problems with the planning system, there are in any case major debates at the technical level on certain issues, notably the relation between energy conservation, CO₂ emissions and urban form. One emerging conclusion of these debates is that it is very difficult to make general statements about the likely environmental costs and benefits of different locational patterns of development. The particular circumstances of specific localities lead to significant variations. The implication is that the production of a development plan and the assessment of the impacts of specific developments requires a specific local analysis of development impacts on environmental capacities, involving a level of information and technical and conceptual sophistication which may not always be available. This is one reason for the emphasis given by many environmental pressure groups to monitoring in environmental policy.

This list of problems highlights the substantial challenge to be faced in operationalizing environmental sustainability principles within the planning and development system. It appears to require a massive coordinative effort, given current sectoral ways in which policy development and delivery is organized. This explains why many commentators call for a new effort in regional planning (Blowers et al 1993), or the introduction of a new form of environmental planning. This echoes recurrent themes in planning debate which seek a holistic conceptual and institutional answer to the integration and co-ordination of public policy. As Boyer (1983) argues, this is strongly associated with modernist rationalism, and difficult to sustain in the present philosophical climate, with its emphasis on diversity and fragmentation (Moore Milroy 1991, Goodchild 1990). Such calls for holistic coordination are thus at odds with the contemporary rejection of the desirability and possibility of formally integrated state planning machinery. Local and regional governance is increasingly fragmented, with diverse arenas of decision-making and forms of regulation (Healey 1994). Coordination to the extent that it is valued, must therefore be sought through other processes than a "top-down" rationalism. Considerable emphasis is these days being placed on horizontal networking, developing links across sectoral and spatial boundaries among those with common interests. This leads to an interactive approach to coordination, operating:

1. at the level of discourse through which planning issues are discussed and policy agendas articulated, and
2. at the level of power relations among those in positions to control the regulatory form of the system.

In order to illustrate the way both the language of ideas and the politics of control have produced particular ways of addressing the environment in the planning system, the rest of this paper examines the treatment of environmental issues in development plans since the second world war. The objective is to show the continuity and difference between past and present ideas. Another aim is to demonstrate that the economy/environment (or environment/development) dilemma is an old one in the planning system, and that the political balancing between them has repeatedly served to reduce the extent to which environmental concerns have constrained the economic objectives of "interests of acknowledged importance". It is with this history in mind that we need to judge the prospects for the radical agenda of environmental sustainability.

SECTION 2

The treatment of "environment" in development plans: 1940s-1990s

2.1 Phases in environmental understanding

Concern for environmental quality is one of the corner stones of the British planning system. Health issues dominated consideration of the urban environment in the late nineteenth century, while the defense of the countryside from urban encroachment was a major theme of early planning thought this century. The countryside was conceived as the "natural environment" in a scientific sense. The conception instead embodied a more emotive response to the loss of treasured places and landscapes; in short, to the changes in the built and natural environment brought about by the march of urbanisation and industrialisation.

Newby (1990) argues that there have been four phases in the treatment of environmental concerns in the planning system: - an early period when the emphasis was on preservation of a pre-industrial past, an interwar period when the emphasis was on combining preservation from development and regulation of development to enhance and safeguard amenities, and, from the early 1960s, a renewed realisation of the scarcity of environmental assets confronted with the pressures of local and global economic and demographic growth. He then claims that by the 1990s, " 'ecology' has replaced 'amenity' as the focus of public debate" (p.8). Newby's phases in effect represent four different discourses within which "environment" is given meaning. Whatmore and Boucher (1993) develops this analysis more explicitly in their work on the environmental discourses in the planning system, arguing that a conservation narrative was dominant in the consideration of environmental issues until the 1980s.

The analysis of the discourses, which underlie the treatment of issues is critical if we are to understand how and why particular policies and policy instruments come to be defined and used in particular ways at particular times. Such an analysis, however, requires careful reading of actual "texts" produced (plans and plan-preparation documents, talks, discussions), set in the context within which terms and metaphors have meaning. Myerson and Rydin (1993) have undertaken pioneering work on the way the term environment has been used in recent decision letters and development plans. They identify the distinction between "mundane" and "sublime" uses of the term 'environment', linked to three different senses in which it is used; as aesthetic value, as property rights and as collective practices. However, they do not analyse the evolution of the treatment of the term, nor do they analyse the different discourses, understood as systems of meaning, within which all these connections are made.

A full account of the environmental discourses within the planning system since the second world war would require a major historical study. However, a sketch of a possible account emerges from a reading of plans and government policy documents from different periods (Annex 2 lists the plans and other documents we have used). From this, a more nuanced history of environmental discourses in the planning system emerges than those offered by Newby and Whatmore/Boucher. We suggest that five discourses can be identified, to which we have given the following labels:

1. a welfarist-utilitarianism, combined with a moral landscape aesthetic (1940s on)
2. growth management, servicing and containing growth while conserving open land (1960s on)
3. active environmental care and management (1970s on)
4. a marketised utilitarianism, combined with conservation of nationally important heritage (1980s on)
5. sustainable development (1990s)

These discourses do not neatly succeed each other. Rather, they have co-existed, older ideas persisting as newer conceptions are brought into the play. What is striking is the way ideas which are now emphasised have been advocated before. But many ideas and policy proposals have been sidelined because they were at odds not merely with dominant economic and political interests, but also dominant conceptions of nature-society relations, and of the relation between state, economy and society.

2.2 1940s/1950s: A utilitarian aesthetic

This was the period when ideas developing through the interwar period with respect to economic development and rural character were absorbed into a comprehensive land use planning framework. Key sources are the major reports on regional planning, land values and rural land, and the ideas promoted by influential planners, notably Patrick Abercrombie and Thomas Sharp. Both wrote manifestoes about planning (Abercrombie 1933, Sharp 1932), and prepared a number of regional and city plans. They argued for a clear separation of town and country. Abercrombie expresses a sharp contrast between the urban and man-made built environment, and the natural environment, responding to a different and female rhythm but yet man-managed.

"The Town and Country Planning Act (1932) rightly includes the statutory powers to deal with both (town and country). But there should be no attempt at fusion between the two: town should be town and country; urban and rural can never be interchangeable adjectives.

.. Towards the town all is centripetal, converging on a concentrated and limited area; this concentration must of course be controlled .. but the attitude towards it is identical - from all sides people and interests are converging inwards and ultimately upwards. Towards the country all is centrifugal: with our backs on the town and village we look out in all directions on an ever-widening, opening horizon.

.. the English countryside (is) a Ceres, a well-cultivated matron, who duly produces, or should, her annual progeny. If therefore it is true that the town should not invade the country as a town, the regularising hand of man has nevertheless sophisticated the country to serve his needs .. (a) prolonged and profound process of remodelling by human hands" (Abercrombie 1933/1944, p. 177-79)

Sharp is typically more extreme in his statements. For him, the challenge of planning was to stall the desecration of the countryside, as of historic cities, by the evils of industrialised urban development.

"the crying need of the moment is the re-establishment of the ancient anti-thesis. The town is town: the country is country: black and white: male and female. Only in the preservation of these distinctions is there any salvation .." (Sharp 1932 p.11).

Such ideas have their origin in Baconian conceptions of people and nature (Harvey 1993). They were followed through into Abercrombie's influential Greater London Plan (1944). Here, Abercrombie combines an aesthetic emphasis with a focus on functional organisation. The natural environment is primarily treated as a backcloth, which provides resources for exploitation (for mineral extraction and farming), opportunities for healthy recreation, and landscapes for "the visual solace of man" (p. 3). Farming was seen as inherent in "the normal countryside" (para 65, p.18), but mineral workings were the source of disfigurement. Interestingly, Abercrombie raises the role of planning in stewardship of the natural environment, and comments on the importance of producing a valued inheritance for the future (see quote at the start of this paper, and Sharp 1932, p. 4/5). This precursor of the sustainability principle derives from the long-established concept of the landowner as steward which had such an influence on rural development policy until very recently (Newby 1990, Marsden et al 1993). Nevertheless, overall, the emphasis in the plan is on the environment as a collection of objects, or assets, to be preserved and amenities to be enhanced. The concern was thus with Jacobs' environmental services functions of the biosphere, but conceived in a moral aesthetic of idealised relations between people and landscape.

This preservationist priority had also to accommodate the demand for development. Tension arose between the notion of the countryside as a resource for agricultural production, as an aesthetic landscape to be conserved and as a recreational resource. The Scott Report (1942) argued that government policy should promote a vibrant and prosperous countryside through preserving land in agriculture and promoting agricultural investment. This helped reinforce the landscape aesthetic of contained urban expansion, despite Dennison's minority dissent to the Scott report conclusions. Dennison argued that improvements in agricultural productivity would reduce agriculture's land needs, a view of course now widely acknowledged.

These debates are reflected in plans for Lancashire. The Preliminary Plan for Lancashire 1952 struggles with the dilemma of relieving the appalling congestion in the urban areas by allowing for expansion, while conserving agricultural land. Environmental conditions are treated as constraints on land availability for development, focusing on areas subject to mining subsidence, high agricultural land quality and amenity (primarily significant natural features)□. What is emphasised here once again is the environment as a set of qualities. The plan concludes that "further demands on good agricultural land are unavoidable" (p.32). Earlier advisory plans in Lancashire argued that the need to provide more space for development could co-exist with agricultural expansion if more intensive forms of cultivation were adopted (ie the Dennison argument) (see the South Lancashire and North Cheshire Advisory Planning Committee 1947). Nevertheless, the countryside was still treated as a backcloth to urban structure. The Merseyside Plan 1944 presents the conurbation in terms of an evolving pattern of urban spurs fanning out into the countryside, separated by wedges of open land, emphasising the environment once again as backcloth.

"Merseyside has been considered as a number of communities in a setting of agricultural land" (p.35).

The debate over "development needs versus land resources for agriculture" was underpinned by powerful national industrial and farming interests. A different concern was embodied in the campaign to open up the countryside to the mass of the population, a movement strongly supported by the Labour Party and the Unions in the interwar period. This issue co-existed uncomfortably with the interests of those seeking to conserve the traditional rural landscape and rural activities in some parts of the countryside, as well as the national priority to promote agricultural production. This tension emerged in the discussion on National Parks and access to the countryside, through the Dower Report (1944) and the National Parks and Access to the Countryside Act 1949, which it influenced (Cherry 1975).

However, planners, and the plans they produced, were primarily concerned with urban conditions. Attention focused on improving housing for the mass of the population, segregating polluting industries from where people lived, while enabling industries access to a ready supply of labour nearby (given low car ownership among workers at this time). Improving the visual landscape was also a high priority, combined with concern to limit "urban sprawl" produced by interwar peripheral urban growth facilitated by public transport. This led to an emphasis on neighbourhood and site planning, focused primarily on the arrangement of the built form.

In the older industrial cities, however, pollution was a critical issue. The Merseyside Plan 1944 sought to separate noxious industries (such as chemical works and tanneries) from residential areas, but yet facilitate their growth (p.13/14). Its account of conditions in St Helens illustrates just how serious were the pollution problems. It was noted that the area had many abandoned sites and scrap heaps; many areas were affected by subsidence; it was criss-crossed by railway lines; "atmospheric pollution has been very serious; the eastern half of the town has little vegetation and no trees", although conditions had improved since the chemical factories were moved in the 1920s. Because of the lack of tree cover, the wind blew the sand used in glass making around the town. The policy objective was to support the industries but to create buffer zones between polluting industries and residential areas, coupled with a vigorous tree-planting programme.

Conditions in Manchester were no better. The South Lancashire and North Cheshire Advisory Plan 1947 notes the reduction in sunlight produced by coal-burning stoves. It was estimated that 481 tons of solids were deposited per square mile in the Bradford neighbourhood in inner Manchester, compared to only 94 tons 12 miles away in rural Lymm (p.93).

"There are possibilities that the future may produce revolutionary forms of power which will end the battle to get rid of smoke (presumably a reference to nuclear power) In the meantime the refinement of bituminous coal before use in open fires and furnaces, improvements in the design of fires and furnaces and a decrease in the use of solid fuel for domestic purposes should each make a contribution to this end. The point which this report seeks to emphasise is that local planning authorities should be ready to cooperate in any policy which might further the cause of smoke abatement, and to adopt positive measures to that end in preparing their development plans" (p.94).

The City of Manchester Plan prepared slightly earlier in 1945 by the City Surveyor and Engineer, R. Nicholas, reinforced this emphasis. It includes a chapter headed "The Abolition of Smoke". This plan is permeated by a concern for the welfare of citizens:

"Our need to plan now is dictated by our pressing and unavoidable obligation to provide for the tens and thousands of our citizens who are living and working in unsafe, unhealthy, outworn and overcrowded buildings.

The main object of the Plan... is to enable every inhabitant of this city to enjoy real health of body and health of mind. (Currently) we are condemned to live under a peripheral smokepall, which enfeebles the health-giving property of the sun's rays and lowers our general vitality and power to resist infection... Fresh air and sunshine are essential to the building of a sound physique... These elementary necessities, which nature bestows upon us in abundance, are the birthright of every man, woman and child " (p.1).

Fresh air and sunlight, and freedom from air pollution, are thus presented as a resource, to which people have rights of access, currently denied, primarily by prevailing heating technologies. It is ironic that on the same page, the plan argues for improved road transport opportunities!

Middlesborough on Teeside also had serious pollution problems, generated by the chemical and iron and steel industries. The Middlesbrough Survey and Plan 1946 focused on dust, noise and smoke. The impact of these on the health of the local population is given considerable emphasis. A substantial section of the plan develops proposals for local pollution control, including measures to reduce the amount of pollution produced by industrial processes. The plan thus confronts "interests of acknowledged importance" at the national level, a struggle that has continued in this area to this day (Sadler, 1990).

The preoccupation of these plans is with quality of life and quality of the environment and builds on a holistic conception of the relation between living, working, leisure and place. They are deeply infused with a moral commitment to rebuild societies and cities for ordinary citizens, following the economic destruction of the 1930s depression and wartime destruction. The needs of industry and economic activity are discussed only tangentially. This did not imply a prioritising of social and environmental considerations over economic ones. Rather, it reflected the assumption that economic growth was able to generate its own dynamic. The role of the planning system was to accommodate growth, while at the same time improving social and environmental conditions locally. Planning policy supported industrial activity by allocating space, by ensuring adequate physical infrastructure, and by managing spatial arrangements to ensure workers could get to factories. The Middlesbrough Survey and Plan was perhaps the most conceptually sophisticated in its treatment of the relation between economic activity and "place". It used a form of base-superstructure approach to the levels of the "whole" of a place.

The planning tradition reflected in these plans embodies the peculiarly British marriage between economic modernisation and a romantic nostalgia for a particular ideal of rural life and landscape (Williams 1973), hence our characterisation as a utilitarian aesthetic discourse. It illustrates an awareness of the environmental costs of economic activity and promotes efforts to ameliorate them. Some, notably Sharp, were vigorously hostile to "industry" as a threat not only to landscape but to a moral order. In general, however, the planning system's

role in economic development was limited to providing space and ensuring an available labour supply with reasonable living standards. Environmental considerations only limited economic activity "at the margin". This was partly because of lack of knowledge of environmental processes and pollutants. Noise, dirt and smell were obvious. Other environmental damage was not. Nor was the car seen as a threat. But a second reason why environmental dangers were marginalised was the dominant functional and materialist emphasis. In effect, the moral view of the environment expressed by Abercrombie and Sharp in the 1930s succumbed to an economic resource management position by the later 1940s.

The 1950s saw a further emasculation of the early conceptions of environment, as the plan-making under the Town and Country Planning Act 1947 got underway. The legislation was itself more limited in scope than many protagonists had hoped for (Cullingworth 1975). It was also highly centralist in its organisation, allowing central government a powerful role in defining policies and guiding implementation. Its scope was further limited by measures to exclude agriculture and forestry operations from planning control, and special procedures for dealing with energy developments, particularly coal, aggregates and water supply investment (Cullingworth 1972). It could be argued that these exceptions enabled resources of national importance to be conserved. But they also enabled these major national enterprises to proceed unencumbered by local considerations.

One consequence of this was seen in the national parks. The 1949 National Parks and Access to the Countryside Act, an act which should have done much to address important issues of environmental conservation, failed to anticipate firstly the future development pressures in National Parks and, secondly, the changing patterns of leisure and recreation pursuits in the countryside. The drafters of the legislation may be forgiven for failing to anticipate the dramatic social changes of the late 1950s and the early 1960s. Even when the Bill was being debated in Parliament, the future legislation was compromised by the then Secretary of State, John Silkin. Although never embodied in legislation, the "Silkin Test" very quickly became accepted planning terminology. This stated that mineral extraction could take place in National Parks provided that it is in the "national interest" so to do.

The development plan process which was initiated by the 1947 Act was approached with varying degrees of enthusiasm by local government. Nevertheless, their content gives an idea of how environmental issues were being addressed. Lancashire County Council's Preliminary Plan for Lancashire 1952 quoted above is primarily concerned with "development needs and land resources", and specifically, "managing the land consuming tide of housebuilding" (p.3).

The Development Plan for the County Borough of Sheffield produced by Sheffield County Borough in 1952 emphasized the provision of open space. Open space was seen both as "playing space" and "breathing space". The latter, for example private golf courses, were seen as important "lungs" for adjacent areas. This practice was underpinned by Sheffield's active policy of land acquisition for open space, and the plan acknowledged the role of the Peak National Park on its western boundary. There was also a concern with the adverse environmental effects of mineral extraction. This focused particularly on coal tips, and the need to level these. Environment was thus treated as both an amenity resource and as setting for a healthy life.

The 1951 Hertfordshire County Development Plan was predominantly concerned with the location of "population" and "employment". It included sections on: geology, geography and

history; mineral workings; agriculture; the rural community; scenery and natural beauty. Its primary concerns were with controlling urban sprawl, with modernising towns, and organising traffic flows. Agricultural land was to be safeguarded (as a resource for feeding Londoners and Hertfordshire people), space for mineral extraction was to be allowed (to provide the sand and gravel needs of postwar reconstruction in London and the South East), attention was to be paid to the provision of education and health services and to playing fields and open spaces, and quality landscapes were to be conserved. There was little attention to active stewardship, ie positive strategies for maintaining and enhancing environment. Yet environmental issues in the Hertfordshire plan embrace more than preservation or conservation. They include the enhancement of environmental quality and the interrelation of regional economic demands with local environmental impacts. Thus the concern is not merely with the environment as a store of non-renewable and renewable resources (minerals and agriculture) but with repairing the damage caused by such exploitation. These issues have persistently recurred in development plan-making, despite equally persistent efforts by central government to corral planning considerations into a narrow agenda of discrete land use issues. But in this plan and the others reviewed, the perspective is always that of individual environmental qualities, to be exploited and enjoyed, rather than sustaining the capacities of environmental systems.

To conclude, in the 1940s and 1950s, environmental issues were initially given considerable prominence in the discourses in and around plans. Compared to contemporary environmental concerns, however, these issues were treated in terms of their aesthetic and material utility to human activity. These utilities were conceived in terms of the interest of citizens and of industries, conceived in homogeneous terms as the typical family and the typical factory. The environment was primarily seen in terms of material resources and aesthetic qualities, as a resource "container" and a "backcloth", to be safeguarded for economic and social enjoyment. This discourse was pursued through a regulatory regime which sought to combine direct development activity and the coordination of building activity with infrastructure. Resource issues were primarily to be treated at national level, leaving local authorities to deal with "local" environmental questions and the control of sprawl. Even issues to do with pollution were separated out under smoke control legislation. Major national economic interests were protected.

2.3 1960s: Growth Management

The planning effort in the early postwar period was devoted to reorganising urban structure in order to relieve congestion, provide better quality housing and industrial space and improve environmental quality. By the 1960s, the emphasis had shifted to accommodating growth and further modernising town centres. This brought not only further new town projects, but renewed interest in strategic planning and development plans after relative disinterest at central government level during the 1950s. The result was a series of regional studies, new town proposals and new legislation on development plans.

The emphasis in these plans and proposals was primarily on development and the physical environment. Liverpool City Council's City Planning Policy Report 1964 (prepared in conjunction with consultant Graham Shankland) makes little reference to the natural environment, except as open space, which is described as "the setting for physical recreation" (p.17). The South Hampshire Study 1964, commissioned from Colin Buchanan and Partners

by the Ministry of Housing and Local Government and the Hampshire local authorities, gives more attention to natural resources. These are listed as gravel, sand, agriculture, forestry, fishing and "natural history", this latter term referring to wildlife and their habitats. But the central preoccupation was the classic dilemma of accommodating growth, in a political situation where local people increasingly sought to limit urban expansion to protect their landscapes, their property assets and their lifestyles□.

"Yet, when all is said and done, it has been difficult to avoid being torn in two directions. On the one hand, we have felt keenly for the people who like the area as it exists, and who would stand to have their lives disturbed if expansion came. On the other hand, we have glimpsed at the possibilities of a new kind of metropolitan area for people who may or may not be more affluent and more leisured than we are today, but who are certain to be better educated. For them we have seen clustered housing in a rich variety with rivers and woodlands in interlacing patterns, countryside and marine recreations ready to hand, easy for movement, convenient for shopping, strongly based on educational establishments, a powerful commercial centre, and (as important as anything) a venue for the "21st century" industry. Seen in this light we realised that expansion could bring incalculable profit to the whole nation" South Hampshire Study, (p.3)

Here the national interest is being drawn upon to justify growth, not conservation. The report then argued for a new urban structure to accommodate growth, based on a "directional" grid, with development within a framework of open space.

Other growth zone and new town proposals of this period reflect an emphasis on the built environment. The Ministry-commissioned study on Central Lancashire: A Study for a City 1967 (prepared by consultants Robert Matthew/Johnson Marshall) has little to say on the natural environment. Its section on environmental objectives includes discussion of how people move around in cities, the qualities of neighbourhoods, and provision for open space and recreation. Such an emphasis on the environment as setting also pervades the Plan for Milton Keynes, produced in 1970 by consultants (Llewelyn Davies, Weekes, Forestier-Walker and Bor). This sought to maximize access and to provide for car-based expansion, but key structural features of the plan were the landscaped parkways and the design of neighbourhoods intended to be "safe, quiet and pollution free" (p 39).

These plans and studies were the product of an architect-planning culture which had a dominant influence on strategic planning work until the late 1960s. Environment was landscape, natural history and a setting for recreational activity and enjoyment. This influence, combined with the concerns of the administrators of the planning system, was influential in the Planning Advisory Group's report on The Future of Development Plans (MHLG 1965) (often known as the PAG Report). Its origins lay in a concern to make the planning system more strategic in its operation. Its preoccupations were with the location of population and employment; with the relation between land use, transportation and urban structure, and the quality of the environment of town and country. In many ways, it continues the thinking of the Abercrombie era. Urban areas are separate from country areas (in "urban plans" and "county plans"). Within the urban plan, the main environmental concerns relate to the grouping of "environmental areas"□. County plans were to be concerned with "major landscape and countryside policies" (3.5), with recreation facilities, landscape policies, derelict land and mineral resources. In local plans, authorities were encouraged to undertake "comprehensive environmental planning" (para 5.8).

The environment once again emerges as a set of environmental services (facilities for recreation and for aesthetic enjoyment), and as a store of resources for exploitation. But the PAG Report, and the subsequent 1968 Town and Country Planning Act, was criticised at the time, both as a piece of authoritarian centralism□, and for its neglect of the issues then beginning to arise with respect to development and change in the countryside (Thorburn 1968). These raised issues arising from a natural science perspective on the environment, as opposed to the utilitarian-aesthetic emphasis in the dominant planning tradition□.

Signs of such a different perspective were to be found in some county plans of the early 1960s. The First Review of Lancashire County Development Plan 1962 confronted yet again the problem of accommodating urban expansion while promoting agricultural production. It estimated that 3,000 acres of land per year were needed for development. At the same time, the land area in agriculture was falling, as were the numbers of holdings, and numbers of farmers and farm workers. Its solution to the dilemma was to bring back abandoned land into farming use, to reclaim under-used land, and intensify production. This was supported by a substantial derelict land reclamation programme. The plan was also concerned about rural life and rural economic development, and included a consumer survey about satisfaction with local services. The approach to the rural environment reflects a form of resource husbandry. As with the South Hampshire Study, the objective was pleasant cities in a pleasant countryside. This was to be achieved by the control of mineral exploitation and reclamation.

"These measures are at once ameliorative, protective, economically useful and socially desirable" (p.91).

However, the agricultural industry and agricultural intensification were still seen in planning policy as benign. By the end of the decade, the new environmental perceptions began to challenge this view. The Hertfordshire County Policy Statement 1981 (1972) has as a major objective, the maintenance of the character and identity of towns, villages and countryside, and the conservation of areas of landscape, agriculture and recreational significance (p.6). The objective for Hertfordshire districts was to safeguard the environment, a tougher growth management approach than in South Hampshire, where regional strategy had designated growth. It is within the discussion of environment that changes can be seen, with concern for wildlife conservation appearing alongside landscape. The plan also contains environmental standards for new buildings, emphasising noise reductions (from road and air traffic) and tree planting. A related Hertfordshire Countryside Plan (1970) goes into more detail on wildlife assessment, and, in considering pollution, refers to "the disposal of effluent from larger intensive farming units". This is an early sign of the changed perception of agriculture from a benign steward of the landscape to a potential environmental threat. Pollution had now become both an urban and a rural problem.

The South Hampshire Structure Plan (1972), which developed the earlier Buchanan ideas into the framework of a development plan, was famed for its sophisticated methodology. Yet it had less sensitivity than the Hertfordshire plans in its treatment of biospheric qualities. These are treated as "natural history". The plan is primarily concerned with the location and servicing of major new development, and the relation between development and conservation. It gives considerable attention, however, to water supply and drainage systems, techniques for refuse disposal, and energy supply, with discussion of the potential for

grouped heating schemes, and with the local impacts of such development. Reducing existing pollution, and limiting the pollution produced by new development, are key concerns.

By the end of the decade, the scale of growth pressures outside the conurbation was creating major pressures not only on agricultural land and other open land resources, but on local infrastructure networks. Combined with the growing understanding of the natural science of the environment in the field of countryside policy, a slow shift towards the contemporary environmental agenda was beginning to appear. However, the understanding within these planning documents was still rooted in a conception of environmental quality for people to enjoy, with the amenity attributes of the environment. The emphasis was on finding locations most suitable for development and addressing some of the adverse impacts of past development (notably land reclamation and water quality improvement). A precursor to the contemporary discussion of constraints and thresholds can be found in the methodological use of sieve map techniques and potential surface analysis which focused on mapping a range of constraints in order to focus attention on the constraint-free areas. These supplemented the land quality maps used by the Ministry of Agriculture to identify priority land resources for agriculture. But the concern was with constraints on suitability and cost for development, not on environmental capacity understood in a biospheric sense. Nor was there much attention to the idea of environmental stewardship evident in planning thinking in the 1940s.

To conclude, the preoccupations of this period were with growth accommodation and management. The natural environment was treated primarily in functional terms, as resource and amenity, with a residual aesthetic as "setting". An alternative resource husbandry approach was sidelined by the dominant urban structure and design preoccupations of the influential planning consultancies of this period, at least until the late 1960s. By this time, the new environmental agenda was being articulated more forcefully, and the intellectual driving force in the planning profession was moving from architecture to regional geography and policy science.

2.4 1970s: Active Environmental Care

Central government was slow to notice this changing agenda. The Development Plans Manual (MHLG 1970), intended as advice to those preparing the new structure and local plans, continued the traditions of the postwar period and focused on land allocation and design. Its environmental dimensions are confined to consideration of "conservation, townscape and landscape", facilities for recreation and leisure, and dealing with the adverse impacts of mineral extraction. District plans could include policies for environmental planning and management, but this term primarily referred to the physical environment beyond the building; ie to amenities and design. The architectural tradition was clearly the dominant influence on this report. With the shift in planning attention to the preparation of strategic policy plans, drawing more on traditions of thought in regional geography, the Manual was largely ignored in plan preparation in the 1970s.

The Strategic Plan for the South East (1970) drew its intellectual inspiration from regional geography and represented a very different approach to analysing development requirements and how to satisfy them. However, it made few innovations in its treatment of environmental issues. It broke with the Abercrombie/Sharp approach in asserting the interdependence of town and country (para 4.2), evident in decentralization trends across the region, but its focus

was primarily on settlements. It argued for a strategy of urban concentration, which led to policies to concentrate new development in the region in a few major growth areas (including Milton Keynes and South Hampshire). One advantage of this strategy was cited as the preservation of open countryside (para 4.9). In discussing the countryside, the Plan argues that this is not purely a land reserve for development. It is a source of essential materials, a location of much of the nation's natural heritage, and a resource for recreation.

"Thus (the countryside) is an asset of permanent value to the community" (para 4.16).

This leads to three emphases in the Plan's approach to the countryside: the need to find space for new development; the need to provide for the "appropriate use and development of countryside resources" and the need for comprehensive countryside policy to deal with the potential conflicts between multiple demands on countryside space (para 4.16).

In considering agriculture, there is a recognition of the changing farm economy and its impact on landscape. The discussion of mineral resources focuses on the problem of competition between mineral extraction, development and landscape quality. Although there is the hint of a "sustainability" objective in the concern to limit development within regional water capacity constraints, the plan's general approach to the environment is as a resource for the benefit of "the South East as a whole" (para 4.42). This assumption of the environment as a resource to be exploited for human needs in the region is outlined in the discussion of utilities, which again emphasises the need to meet demand. The tenor of the report, though more geographical in inspiration, retains the utilitarian functionalism of earlier postwar plans.

Central government produced several advice notes during the 1970s, designed to contain the innovation that was occurring as counties prepared their structure plans. Circular 98/74 (DoE 1974) exhorted authorities to be selective and focus on key issues. Employment, housing and transport were intended to be the primary concerns of structure plans. Other key issues could include the conservation of character, provision for recreation and tourism, and the location and scale of land reclamation. Circular 55/77 (DoE 1977) moves a little further from the traditional agenda to legitimise agriculture as a topic in structure plans (primarily in terms of safeguarding land from development). In discussing measures to improve the physical environment, it also refers to pollution reduction measures. Agriculture is still to be protected. In Circular 4/79 (DoE 1979), structure planners were encouraged to assess the impact of other policies on agriculture.

In parallel with these specifications of the form and content of development plans, the 1970s saw a series of inquiries into countryside issues. The Sandford Committee (1974) on National Parks no longer saw all agricultural practices as a benign influence. The protection and promotion of beauty was promoted as the key criterion to guide conservation measures. More attention was also being given to the control of aggregate production, to safeguard local environments, notably in the Verney report (1976). The problem of the conflict between the conservation of landscape beauty and agricultural production was the key issue in the Portchester report (1977) on Exmoor, and there was also a stream of reports on agriculture itself. The 1970s also saw further interest in the promotion of a diversity of resources for sport and recreation and concern for the management of the urban fringe (Munton 1983). Countryside management had thus become a major preoccupation for local planning authorities by the end of the decade.

The structure plans produced towards the end of the 1970s reflected these interests, as well as changes in professional thought and popular concern in response to the growing leverage of the environmental agenda. Authorities were often engaged in environmental enhancement work, promoted by bodies such as the Countryside Commission, and by the availability of derelict land grant for a wide range of environmental improvements. This encouraged authorities to pay more attention to environmental care as well as protection, and to active environmental management.

The approved Hertfordshire Structure Plan 1979 illustrates these changes. Its primary preoccupation is with restraint policy (as a British version of the US concern with growth management). The strategy is to limit the "growth spiral" in the county by controlling employment growth through limiting land made available for employment-generating uses. In this way, it is hoped to limit housing demand and hence loss of open land. In discussing the physical environment, and taking a lead from the Strategic Plan for the South East, the importance of investing in environmental resource management is stressed, along with the protection of areas of open country. Agriculture and forestry are to have priority as countryside uses, with strict control over mineral workings. In discussing the rural environment, the emphasis is on resolving conflicts between competing interests: safeguarding areas of natural beauty and high landscape value, mineral control; heritage and archaeology; amenity corridors where leisure will be encouraged; the protection of agriculture as far as possible from urban fringe threats through control of recreational activity location; the promotion of wildlife conservation; and active countryside management. Improving water quality in local rivers, recycling waste and reducing noise pollution are also concerns. It is interesting that this list, though wider than in earlier plans, and moving towards an agenda common in late 1980s plans, does not raise the tension between agricultural production and the conservation of wildlife and water quality.

Other counties were less innovative. The Cheshire County Structure Plan 1979 contains chapters on agriculture, environment, recreation, minerals, and "rural Cheshire". The policies for the environment focus specifically on landscape, townscape, archeology, ecology, pollution and certain strategically significant "nuisances" (para 9.3). Once again, the consensus in the North West about reducing derelict land, air pollution and river pollution is stressed. There is also concern about the scale of development pressure on the county's open land heritage. Interestingly, the county sought to impose specific World Health Organization standards on air quality, but this policy was deleted via Secretary of State modifications to the plan. Policies on recreation and mineral exploitation aimed to find ways to meet demand. Policies towards the rural areas struggled with the problems of resisting development pressure and ensuring the development of agriculture, classified in the plan as an industry.

The shift in strategic attention is found not only in the counties with respect to rural land, but in the urban areas. The Draft South Yorkshire Structure Plan 1977, while preoccupied with the need to create jobs and diversify the county's industrial base, gives considerable attention to environmental issues. It includes policies for environmental priority areas, for areas of major reclamation, and improvement of local environmental quality. It notes the value of such action in creating economic development assets. In its discussion of policies for the countryside, it seeks not only to protect attractive landscapes and buildings, and areas of "natural history interest", but to control surface mineral exploitation:

"In addition, it will be important to promote the transport of minerals, other raw materials and industrial goods by rail or canal rather than by road" (para 5.15).

Policies for the environment include land reclamation schemes and smallscale environmental improvements (to open spaces, derelict sites and river quality), policies to address air and water pollution (a particular concern was alkali pollution), as well as countryside conservation. In the minerals section, opencast working was to be allowed only where there would be an overall gain to the community (M6, para 127). This represents an interesting attempt to encourage the local political community to "balance" economic and environmental values. Transport policies focus on shifting the emphasis to public transport. This was seen to have environmental benefits, but primarily with respect to alleviating congestion, rather than energy conservation and the reduction of CO2 emissions.

The Draft Merseyside Structure Plan 1979 similarly reflects the expanding understanding of environmental issues. It is particularly concerned with urban environmental quality, with the husbandry of natural resources, including open land, with conservation and maintaining the green belt, and with recreation facilities. The amount of derelict land, the decay of the physical environment and air and river pollution are seen to be major problems, as is pressure on the quality of farming in the countryside and the survival of natural habitats. Policies for the urban environment include: reclaiming derelict and vacant land; restoration of parklands, tree planting in the urban landscape, conservation of areas and buildings, conservation of heritage, promotion of residential environmental quality, smoke control, control of pollution in industrial areas, and appropriate measures for the treatment and disposal of waste. The section on natural resources and open land begins to look like an agenda constructed from the contemporary agenda of environmental concerns: improving river water quality and refusing potentially polluting development; working with the users of non-renewable resources "to ensure economic benefit at minimum environmental cost", safeguarding sites for mineral extraction and ensuring restoration; bringing derelict land and underused farm sites back into production; counteracting loss and damage to urban fringe farmland; protecting fine landscapes and repairing degraded ones; safeguarding natural habitats and restoring damaged areas; promoting countryside recreation and education (p.68). These ideas are then developed in the section on mineral working. The section on open land also discusses the rural economy, and in particular the need to conserve farm holdings.

These plans continue to treat the environment as available for exploitation. The main concern is to reduce degradation and enhance productive and amenity qualities. Capacities are still treated in terms of resource supply and topographical or infrastructural constraints on development. South Yorkshire's concern at the time with public transport was more to do with access for its poorer citizens and with political ideology than with energy conservation.

All these plans stray beyond actions which could be pursued through land use planning powers. They also, particularly South Yorkshire's transport strategy, challenged government policy. Yet they offered a strategic agenda for the coordination of a range of different types of action. Central government's reaction was to assert that development plans should avoid straying into areas which were beyond the remit of town and country planning legislation. The South Yorkshire transport policies were changed by central government after the Examination-in-Public. Central government also sought to remove policies relating to countryside management from structure and local plans, on the grounds that the planning system could only make regulatory decisions□. This position was partly a technical argument

about the way actions under different powers should be cross-referenced. But it also reflected a political argument about the role of local government in local environmental management.

To conclude, the 1970s saw a shift in the planning discourse about the natural environment, from a conception as a resource for exploitation and as a setting, to an emphasis on rural resource management. This still embodied the mixture of utilitarian/functional concerns and aesthetic considerations inherited from earlier periods, but the potential conflicts between these were recognised much more clearly; hence the emphasis on managing multiple activities in the countryside. The major shift was that the countryside was no longer merely seen as a setting or backcloth, but in terms of natural systems to be managed to safeguard their economic and amenity value.

As regards the planning regime, local authorities had available to them considerable resources for environmental improvement, as well as their regulatory powers, enabling more intervention than in the past. In this, they were backed by increasing local popular pressure. But their efforts in countryside management challenged the bastions of rural development power, the landowners and farmers, the remit of the Ministry of Agriculture, as well as the minerals industry. In this context, central government's resistance to active environmental management in development plans is one reflection of the struggle for power between these bastions, and a new local countryside politics developing as middle class urbanites have moved out into rural environments (Marsden et al 1993). This intensified the opposition to further urban expansion in such areas. Government meanwhile was still vigorously defending agricultural land reserves (HM Government 1975, 1979), while the promotion of countryside issues led to yet further interest in leisure pursuits in the countryside. Thus the tension between environmental conservation, economic development and access to the countryside intensified during the 1970s. It would have been even more severe if the economy had not been relatively stagnant. As a result, developers were typically still working out the land allocations made available through the growth accommodation strategies of the 1960s. The 1980s however brought the conflict between environmental conservation and management and development to the fore, both through the pressures of neo-liberal political philosophy and through market pressures. These came head on against a maturing popular understanding of, and concern about, environmental issues. In retrospect, it is a tragedy that the innovatory effort of the 1970s in local environmental management was largely closed off by the hostility of central government. As a result, local authorities had in the late 1980s to move rapidly to catch up with appropriate responses when a major philosophical shift towards environmental concerns occurred in central government itself.

2.5 The 1980s: Marketised utilitarianism and heritage

In the early 1980s, plan-making activity shifted attention to local plans (Healey 1983, Bruton and Nicholson 1987). These were frequently prepared for towns and villages, for development zones, and for single issues, such as greenbelt boundary definition. The widening environmental and countryside agenda of the 1970s was reflected in the content of many of these plans. This was particularly evident in the treatment of rural issues. Plans for rural areas and "open" land commonly included policies for positive environmental improvement and countryside management (Healey 1983, p 202). Policies for the control of agriculture were also put forward, of which the most controversial was Humberside's

Intensive Livestock Units Subject Plan which was directed at intensive pig rearing. Deposited in 1979, this plan survived several challenges, to be approved in the late 1980s.

This widened agenda was consolidated in the comprehensive Circular 22/84 (DoE 1984a), the Memorandum on Structure and Local Plans, which includes a long section on the content of structure and local plans. This includes comments on agriculture and forestry, minerals, waste disposal, hazardous development, environmental pollution and control, and environmental protection and conservation, with a cross-reference to advice on green belts (DoE Circular 14/84 DoE 1984b). The emphasis in dealing with agriculture is on minimizing loss to development;

"The aim should be to strike a balance between the requirements of development and the need to implement government policy for the protection of agricultural land" (DoE 1984a, para 3.28).

Policies to provide, conserve and develop the amenity use of "trees and forestry" may be appropriate. Minerals policies emphasize the aggregates' producers need for a land bank, and for beneficial after use, rather than conservation of reserves over the long term by reducing demand. Structure and local plans should take account of the need to find appropriate sites for waste disposal and hazardous development. The approach emphasizes the need to accommodate necessary activities which are unpleasant "neighbours", rather than environmental resource management.

Such policies continue the functional and demand-led approach to managing conflicting land uses. The 1970s emphasis on active environmental care surfaces in the discussion of environmental and pollution control (para 4.34). Policies may focus on conservation and improvement, "for example, by reducing derelict land". Policies to control pollution and deal with noise, smell and dirt are also seen as acceptable. In addition

"Local planning authorities should have regard to the impact (all their) policies and proposals will have on the environment and how they relate to pollution control" (para 4.34).

The advice begins to touch on the demands and implications of pollution control.

"In particular the introduction of European air quality standards may impose a constraint in the extent to which plans should provide for intensification of development in some areas" (para 4.34).

However, this strategic point is raised only in passing and the advice is unclear whether "intensification of development" reduces or increases pollution and through what mechanism. The advice concludes with a summary of the long established conservation agenda.

This circular was in retrospect a swansong for the professional agenda of planning issues which had built up through the 1970s. It came up against a new impetus from central government, driven by ministers and some civil servants, to simplify and reduce the scale and scope of planning regulation. The two specific targets were to speed up development control decision making and to demote the status of development plans. The focus of debate was on balancing development and conservation, a simple task according to the Michael Heseltine. The incoming Secretary of State for the Environment Michael Heseltine (1979) emphasized

the importance of conservation, but also stressed the need to release development from unnecessary constraints.

"This country, in economic terms, cannot afford the manpower involved in a system which in some parts can be negative and unresponsive. But above all, we cannot afford the economic process of delayed investment, whether commercial, domestic or industrial" (Heseltine 1979, p.27)

In practice this meant an approach to land allocation, particularly housing land, which took on board commercial criteria in determining amounts and locations of development, and which treated environment as landscape assets to be separated off and protected from the threat of development. This approach was articulated in two draft circulars, on housing land and the green belt, issued in 1983. These attracted considerable controversy and were moderated in the final versions issued in 1984. Other activities, notably retail development and business park location, were treated in a more ad hoc way, primarily through the appeal system. The result was to weaken the restraint policies developed in the 1970s and allow substantial possibility for urban expansion beyond established urban areas.

This impetus culminated in Circular 14/85 (DoE 1985). This emphasised the "presumption in favour of development" which in central government's view should be the priority principle pursued through the planning system. Development projects were only to be refused if they caused:

"demonstrable harm to interests of acknowledged importance"(p. 1)

Development plans were relegated in status to a material consideration on a par with any other. The result was a planning system driven by the appeal system.

Central government policy in the 1980s thus both narrowed the planning agenda, and shifted it to absorb criteria related to property market considerations (Brindley et al 1989, Thornley 1991). As Whatmore (1993) notes, this encouraged a conception of sites, buildings and environmental qualities as commodities, the generation and trading of which was to be regulated through the planning system. This emphasis on the environment as tradable assets (qualities and facilities), coupled with a narrow conception of conservation as heritage landscapes and wildlife sites, can be seen as a continuation of the utilitarian-aesthetic conception, but in a simplified and marketised (rather than welfarist) form. By the 1980s, however, this had become reduced in government thinking merely to the protection of a set of particular sites and landscapes. Such landscapes and heritage assets could then be evaluated and weighed in the terminology of economics.

How then were these changes in central government thinking reflected in development plans of the 1980s. Given the government attitude to plans in the mid-1980s, and the workload generated by the scale of planning applications and appeals resulting from the property boom, plan-making effort lapsed in the mid-1980s. The plans of the early 1980s continued the themes established in the 1970s. One of the Hertfordshire District plans, East Hertfordshire District Plan emphasises both conservation and environmental improvement objectives:

"to conserve and protect a productive and attractive rural landscape and good environmental quality in towns/villages and to secure improvement to the environment wherever the opportunity occurs" (para 1.8.5)

It recognises that the term environment is taking on new meanings:

"Environment in the planning context means more than the surroundings in which mankind lives. It has become a study of the quality and value of these surroundings, encompassed by the increasing recognition of the need to conserve our limited natural resources" (para 7.1.2).

The agenda of environmental issues now includes landscape, minerals, trees and woodland, lanes, hedgerows and footpaths, archeological and ecological areas (ecology replacing "natural history"), and waste disposal. Agricultural production techniques are now seen as part of the problem, threatening environmental quality, along with mineral workings and development. The role of the plan is to "safeguard vanishing assets and cater for our changing needs" (para 7.1.3), while conserving and managing the countryside.

This plan only moves marginally forward from the 1970s in its understanding of environmental issues. Local plans concerned primarily with the management of development focus on the conservation and management of landscape features in and around development (eg: Chandlers Ford District Plan adopted in 1981). The system was, however, under pressure to widen its agenda. The debates on the roll-forward of the South Hampshire Structure Plan show the CPRE, the Nature Conservancy Council and the National Trust challenging the continued growth strategy, on the grounds of the high environmental costs of development, and the damage to landscape and important ecological interests in the area. The response of the South Hampshire EIP panel (1985) presents the government view, in terms of a clear choice between economic development and environmental conservation:

"It cannot, however, be a function of the planning system to impede economic recovery. Indeed, it seems to us to be vital that industrial and commercial development should be encouraged if recovery is to be sustained, especially where there is a strong and promising economic base. We believe South Hampshire to be such an area",

The national economic interest, as Buchanan argued in the 1960s, thus firmly overrides "local" environmental interests.

There is little real innovation in the structure plans of the 1980s. However, local authorities were beginning to innovate primarily in the urban areas. As in so many other respects, the Greater London Council's proposed revisions to the Greater London Development Plan (1984), firmly introduced a new agenda. While the priorities of the plan were economic and social, a chapter on the Environment contained policies on

"Ecology (nature conservation), waste disposal (with a strong emphasis on "reverse recovery", energy (stressing conservation, combined heat and power schemes, renewable energy and safeguarding power station sites) and pollution control (a strong set of targets for air and noise pollution, and clear policies on water pollution and clean technology)" (Marshall 1992b p.2)

These proposals were not, however, followed through, with the abolition of the GLC in 1986. They nevertheless provided a useful source for other authorities seeking to "green" their development plans.

Some encouragement to strengthening the environmental agenda in the planning system was given by the introduction of requirements for environmental impact assessment on major projects, introduced in order to comply with EC policy. Even though the thresholds for such requirements were set high EIA has started to have some impact on development control decision making. Although government makes reference to and welcomes the now wider use of EIA procedures it is perhaps too early to judge the impact of EIA on the evolution of government's environmental policy making, or on local authority practice (Wood and Jones 1992).

During the mid-1980s an important locus for innovation lay outside the planning system, in the preparation of environmental statements or environmental charters. These were often inspired by local politicians, and developed by officers in environmental health as well as planning departments. Kirklees Metropolitan Borough Council was a pioneer in this respect, producing, in collaboration with Friends of the Earth, a Charter for the Environment (KMBC/FoE no date). It covered waste disposal and management, air quality, water quality, forestry and woodland, open space, wildlife, landscape and land use, and noise control. The emphasis was on the reduction and minimisation of threats. However, there is no reference to capacity management. The London Borough of Sutton was another pioneer, producing a series of annual Environmental Statements from the mid-1980s. These covered all areas of local authority activity and aimed to set performance targets on a range of topics. By the end of the decade, both Friends of the Earth (1989) and the Local Government Management Board (1990) had produced guidance to local authorities on the content of green charters□.

This emerging environmental agenda is not reflected significantly in development plans until the early 1990s. The planning system was still constrained in its response to the new agenda by the attitude of central government, and by the slow percolation of the new agenda into the planning profession□. The Greater Chester Local Plan 1988 shows only tentative signs of a more sophisticated discussion in its treatment of air and noise pollution. This authority was undertaking systematic air quality monitoring by the end of the 1980s, although it had found no problem in meeting standards. The Plan's main concern was to release land from the greenbelt for housing development, an issue which prevented its adoption, due to interference from the DoE. By the end of the decade, the treatment of environment was widening, however. Three city plans illustrate this. The draft Leicester Local Plan 1990 emphasises the importance of environmental improvement, and the positive link between environment and economic development:

"The quality of the environment contributes greatly to the well-being of the people of Leicester. Maintaining and improving this quality requires vigilance and a positive approach in terms of management and action" p.5)

"The close link between attracting investment and the quality of the environment is well-established" (p. 5)

The environment, for Leicester planners, is now seen both as a "setting" or "backcloth" (for local life), and as an economic asset. The section in the plan on environment is very long, but

primarily covers design and building conservation. It concludes with a section on "the green environment", which emphasises the promotion of "a greener, leafier and healthier city" (p.11).

The theme of a "green and healthy city" recurs in the City of Southampton Local Plan 1989. "Green" refers to ecological assets and open space networks. "Healthy" is linked to recycling of waste, pollution control and geothermal energy. The term "healthy city" has arrived in planning discourse not only from the environmental concern with pollution effects, but from the international "healthy cities" initiative (Ashton, 1992). The plan has a section on the "Quality of the Natural Environment", and covers such matters as landscape conservation, the protection of important ecological areas, maintaining "gaps" between settlements (a longstanding South Hampshire policy dating from the Buchanan strategy), and improving the quality of the urban fringe. Environmental health and safety concerns are listed as control of contaminated lands, hazardous uses and water pollution.

The City of Nottingham Local Plan 1988 parallels Leicester's plan in its recognition of the relation between environmental quality and economic development:

"It is increasingly being recognised that a good environment is of paramount importance. Not only do the residents of Nottingham have a right to expect pleasant surroundings in which to live and work, but the quality of the environment is a major factor in the prosperity of the City, because of its role in attracting investment, tourists and shoppers" (para 12.2 p.145)

This environmental quality and economic development are now presented not as opposites, as in government thinking in the early 1980s, but as a "positive sum" relation. There is no sign of any direct link to the sustainability debates reflected in the Brundtland report although the environmental debate was widely discussed in the media. However, the economic value of environmental quality was being stressed in urban regeneration debate at this time, justifying the property-led approach to urban regeneration (Healey et al 1992).

By 1990, the environmental discourse reflected in plans begun to change substantially. Two examples illustrate this. The Draft South Hampshire Structure Plan 1990 firmly turns against the growth strategy of the past twenty years. Widespread concern about the effects of rapid development on the "loss of greenfields" and "people pressure" are noted.

"Hampshire's individual character can only be preserved if future development is significantly less than that experienced in the 1970s and 1980s.

..The lesson of recent years is that an attractive, wholesome environment is not only important in its own right but an essential pre-condition for a healthy economy"(p.1).

This position is a direct challenge to the comments on the previous Structure plan quoted above, and a challenge to central government regional growth strategy. The result has been a major conflict with central government over the county's strategy.

The plan is introduced by a "Vision for the 1990s".

"The vision driving the County Structure Plan is that of a prosperous county where the quality of life is enhanced by an attractive environment within which the unique character of

Hampshire's cities, towns and countryside is maintained and enhanced, and where the pursuit of economic growth is replaced by the desire to sustain what already exists. It is a vision of a county where the pace of change is slower than at present; where employers and employees feel secure; where the countryside is protected; where the identity of individual settlements is retained; and where infrastructure begins to catch up with the needs of local residents" (p.3/4, para 21).

The term sustainability occurs here, and later, with reference to the local economy although this may be a quite accidental reference. Apart from this general philosophy, the rest of the plan is primarily about the management and limitation of growth.

The Ealing Unitary Development Plan consultation draft 1990 innovates more vigorously. It refers to itself as "a plan for the environment". Environment is considered as both "surroundings" and "a means for sustaining life" (para 3.1). It has a major section on environmental resources, which covers a land allocation strategy, to concentrate and group development in the interests of amenity (4.2), policies on local recycling facilities (4.3) and energy efficiency, from strategic considerations to requirements for specific developments (4.4). It also has a subsection on "the water environment" (para 4.). The section on the built environment proposes the use of environmental impact statements to cover a wider range of projects than current legal requirements, and stresses that development should be located to minimise car use. Noise reduction policies are also emphasised in discussing environmental standards. This illustrates a widened agenda, but still in the vocabulary of amounts and qualities, rather than managing demand within biospheric capacities.

These developments in the content and discourse of plans reflect both changes in professional understanding, and popular pressure. A green politics was rapidly developing in Britain in the later 1980s, encouraged by developments on the continent, by successes in establishing EC legislation, notably Environmental Impact Assessment and by the very evident consequences of economic boom conditions, in terms of development, traffic congestion and other manifestations of "people pressure". It is hardly surprising that these influences were slow to filter into the planning field and into plan-making, given the difficulty authorities had in maintaining their planning policies against pressure from both central government and the development industry in boom conditions. But it was the boom and its obvious environmental and property market impacts, coupled with the strength of generalised support for the new environmental agenda, that laid the foundations for a dramatic U-turn in government policy on the environmental agenda and the role and content of development plans. This was symbolised by the publication of *This Common Inheritance* in 1990 (Secretaries of State 1990), a cross-departmental exercise intended to show how government was taking on the agenda of environmentally sustainable development in all areas of its work.

The summary of this White Paper expresses the political philosophy. It stresses stewardship, and the beneficial combination of environmental conservation and economic growth.

"We have a moral duty to look after our planet and hand it on in good order to future generations. That does not mean trying to halt economic growth.. But growth has to respect the environment. And it must be soundly based so that it can last. This is what is meant by sustainable development. We must not sacrifice our future well-being for short-term gains nor pile up environmental debts which will burden our children" (Secretaries of State 1990 Summary, p.1).

It then emphasizes the importance of scientific knowledge and economic analysis: "we must act on facts, and on the best analysis of likely costs and benefits"; a precautionary approach, though this "does not mean delaying action until we know everything there is to know about a problem"; and providing information. It also discusses the relative role of regulation and "market signals" in safeguarding the environment and proposes a shift to the latter. It thus moves beyond the concept of "respect" for the environment, to a hint of constraints. In a phrase repeated in subsequent monitoring reports and in the 1993 consultation paper in the UK Strategy for Sustainable Development DoE 1993, it states:

"The Government.. supports the principle of sustainable development. This means living on the earth's income rather than eroding its capital. It means keeping the consumption of renewable natural resources within the limits of their replenishment. It means handing down to successive generations not only man-made wealth (such as buildings, roads and railways), but also natural wealth, such as clean and adequate water supplies, good arable land, a wealth of wildlife and ample forests" (Secretaries of State 1990, para 4.4)

The main report then summarizes existing government guidance. The section on town and country planning largely covers the established agenda, emphasizing the balancing of conservation and development. But it introduces the idea of locating development to minimize car journeys, and proposes to encourage the use of planning agreements to compensate for amenities lost through development (p 88).

To conclude, the 1980s saw dramatic swings in government attitudes to planning and to environmental questions. These first impeded, and then accelerated, local authority and professional development of appropriate responses to the new environmental agenda. The development of approaches to active environmental management was curtailed in the context of planning policy, to be pursued more independently in the various urban fringe management initiatives promoted by the Countryside Commission, among others, in the 1980s. Within the planning arena, a narrow utilitarianism was promoted. This treated environment as a collection of tradable assets or commodities, as Whatmore and Boucher (1993) argue. By the mid-1980s, the value of such "environmental quality" assets in relation to economic development strategy was increasingly appreciated by both national and local policy communities. It was only late in the decade that the environmental sustainability debate was recognised, and, with the exception of a few pioneers, the biospheric and resource conservation dimensions of the environmental agenda were largely neglected.

One explanation for these swings in policy attention can be found in the hope and ultimate failure of the strategy of promoting a market-led approach to the amount, location and form of development. This not only served to undermine property development markets in themselves. It also activated a wide-ranging political backlash as the cost of such an approach to development management came to be widely appreciated. But beyond this narrow concern, the "environmental turn" in British policy debate in the late 1980s reflected a belated appreciation among policy elites of the supra-national and global dimensions of the environmental debate (Hajer 1993). In the planning field, British practice certainly lagged behind developments elsewhere in Northern Europe (see Nijkamp et al 1992, Orrskog and Snikkars 1992). It is therefore not until the 1990s that the operationalization of the environmental sustainability agenda within the planning systems really begins.

2.6 The 1990s: Sustainable Development and Carrying Capacity: The Operational Struggle

1990 marked a major shift in the climate of thinking in Britain with respect to environmental policy. With *This Common Inheritance*, government committed itself to the new environmental agenda, and began to translate this into its implications for all areas of government policy. With respect to planning, these efforts were complimented by EC interest in the urban environment, with the publication of the Green Book on the Urban Environment (CEC 1990). By 1992, national policy guidance on plan content strongly emphasised environmental issues (DoE 1992a), with further development in draft guidance on land use and transport in 1993 (DoE 1993). This encouraged the innovative local authorities to develop their ideas more vigorously, and pushed all authorities to re-think their approach.

Initially, the debate within the planning system was over the content of the agenda, leading to new topics to be included in plans. The resultant agenda was relatively easy to absorb, given the malleability of the system. By 1993, however, the more fundamental debate between technicist and radical conceptions of environmental sustainability and ecological modernisation was affecting discussion. The lines of debate, as discussed, were between balancing environmental and other considerations through trade-offs versus conceptions of managing development within limits and capacities (Marshall 1992b, Williams 1993a, b, CPOS 1993). Linked to this were more complex distinctions between conceptions of the environment as a stock of assets, as emphasised in environmental economics (Pearce et al 1989), and those which focused on capacities defined in terms of ecological relations, and which incorporated moral dimensions of people's relation to the natural world (Jacobs 1992). Specifically in relation to planning, these debates encouraged consideration of the impacts of development, and whether and how to mitigate adverse impacts. They also opened up old debates on spatial strategy and urban structure.

The EC's Green Book on the Urban Environment provided a comprehensive statement of the new agenda of topics. However, it received a mixed reception in the planning field in the UK. The agenda as such was not contested. The "fields of action" listed in the report were:

- urban planning
- urban transport
- the protection and enhancement of the historical heritage of European cities
- protection and enhancement of the natural environment within our towns and cities
- water management
- urban industry
- urban energy management
- urban waste
- comparative information on the state of the urban environment
- information initiatives
- social initiatives
- interregional co-operation

The last two, which emphasised the need to help the poor adjust to new environmental priorities, and the value of building up networks for the exchange of experience across Europe, had largely been ignored in the UK. The rest are common in British discussion. The main consequence of the EC report was to generate a vigorous debate on urban structure. The

EC report had argued for limiting urban intraregional dispersal, and a return to the compact city. This position was informed by the extent of extension occurring in many European regions with less effective growth management policies than in the UK. Nevertheless, the Town and Country Planning Association in particular challenged this view, arguing the environmental case for new settlements. This debate on urban structure has continued to preoccupy planning discussion on environmental issues, focused now on how to link new development to public transport networks, to reduce vehicle-related pollution. The environmental costs and benefits of different urban structures cannot easily be accounted and consequently there are no easy conclusions (Breheny 1992, 1993 Owens 1991, DoE/DTp 1993). However, the discussion has had the valuable consequence of emphasising the strategic importance of the urban and regional scale in addressing the environmental agenda.

National government policy with respect to the planning system was articulated most clearly in the revised Planning Policy Guidance 1: General Policy Principles (DoE 1992b) and Planning Policy Guidance PPG12 with respect to development plans (DoE 1992a). This includes a special section on Plans and the Environment. It emphasises the need for a shift of attention:

"Local planning authorities should take account of the environment in the widest sense in plan preparation. They are familiar with the "traditional" issues of Green Belt, concern for landscape quality and nature conservation, the built heritage and conservation areas. They are familiar too with pollution control planning for healthier cities. The challenge is to ensure that newer environmental concerns, such as global warming and the consumption of non-renewable resources, are also reflected in the analysis of policies that form part of plan preparation"(para 6.3).

The phrase "reflected in" leaves ample interpretive scope, should the Department of the Environment wish to object to specific plan policies and proposals. In developing its ideas, PPG 12 gives considerable attention to the role of planning in energy conservation, and specifically in reducing CO₂ emissions. This leads to a discussion of ways of limiting car travel, promoting development near public transport and other measures. However, the conception underlying this discussion is clearly one of trade-offs.

"Conservation and development should not be seen as necessarily in conflict. Policies for land use must weigh and reconcile priorities in the public interest."(para 6.4)

"Environmental concerns weigh increasingly in the balance of planning considerations"(para 6.7)

(authors' emphasis)

PPG 12 also encourages the environmental assessment of plans as a whole, anticipating expected EC policy requiring this.

The notion of environmental limits and of carrying capacity barely appears in government statements until 1993. Then, in discussing transport and land use planning, Minister Michael Howard introduced the concept of demand management, with its implications of managing demand within capacity constraints. Calling for a national debate on the interaction of transport and the environment, Howard stated:

"We must .. consider a more fundamental approach. We must stand back and seek to promote changes in patterns of transport use - both the amount of travel undertaken and the mode which people use. Technical fixes are not enough. We need to get back to basics and influence the demand for travel.

In our planning policies today we are already giving increasing emphasis to the need to concentrate employment and retail use in existing centres served by public transport, on putting residential development in corridors well-served by public transport and on increasing the possibilities for people to live near their work" (see footnote 27)

This statement prefigures the ideas reflected in the DoE's 1993 consultation paper on a UK Strategy for Sustainable Development (DoE 1993), a response to the 1992 Rio summit. This moves significantly beyond This Common Inheritance (Secretaries of State 1990). It is couched primarily in the vocabulary of assessing costs and benefits, and again emphasizes the need for "the best possible economic and scientific analysis" (p.10) to help in risk assessment. But it also restates the precautionary principle to suggest that risks may sometimes be too great to allow development, and discusses the possibility of natural resource accounting, presumably with respect to ways of calculating GDP. It moves beyond references to planning agreements, to emphasize the principle that:

"the private sector takes account of the full environmental costs - the "polluter pays principle"" (DoE 1993a, p.10).

It remains to be seen how this document will fare in the consultation process. The views of other government departments are likely to be as significant as those of the pressure groups and the public at large.

However, so far, neither the trade-off nor the carrying capacity conception has been carried far into the DoE's contribution to Regional Guidance and in amendments to plans. The recent Northern Region Guidance and that for the South East go little beyond introductory rhetoric (CPRE 1993, Healey and Shaw 1993). Plans which suggest a "presumption against development" on environmental grounds are now being amended by DoE Regional offices on the grounds that they are out of line with government policy to allow development unless it causes "demonstrable harm to interests of acknowledged importance"□.

Several national environmental groups have been maintaining the pressure on the operationalisation of planning policy at the level of plans. The Royal Society for the Preservation of Birds has produced model plan policies, two of which stress safeguarding the environment and giving the environment priority (a form of presumption in favour of the environment). (Dodd and Pritchard 1993 p. 8 REC 1 and 2). The Council for the Preservation of Rural England has maintained the pressure on government policy, developing its ideas on environmental sustainability rapidly (recently commissioning a report from Michael Jacobs 1993). Friends of the Earth have focused their attention primarily on promoting conservation and minimizing pollution, and have produced guidance on sustainable urban living and the role of local authorities in ecologically sustainable practices (Elkin and McLaren 1991, Bosworth 1993). Neither the CPRE nor Friends of the Earth have taken a "deep green" environmental position in recent years, nor are they explicitly stressing constraints on

development. This reflects in part their success in the political middle ground, actively influencing both public opinion and government policy.

The shift in government thinking on environmental issues has left the arena for operational innovation in the environmental agenda in the hands of local authorities. The work on green charters and statements in the late 1980s provided a foundation for developing more precisely focused policies. A key emphasis in many authorities has been the production of environmental audits, which have served to provide an information base upon which to develop realistic targets and to work out critical thresholds and capacity constraints (Raemakers and Wilson 1992, Jacobs 1992, Bosworth 1993). In reviewing local authority progress in relation to the treatment of environmental issues generally, Jacobs (1992) suggests authorities have developed their policies through three phases. The first treats environmental issues in isolation, within specific policy areas, the second develops a holistic approach, looks across the range of local authority activities, and seeks to develop an integrated approach to policy and action. He argues:

"Most local authorities, certainly among the larger ones, are in Phase Two, and the progress achieved - in a time of squeezed budgets and the imposition of additional statutory duties - has been remarkable" (Jacobs 1992 p. 12)

Phase Three involves a movement to the adoption of sustainable development principles, with a choice between the weak, or balancing, version, and a strong, or constraint-oriented, version.

Many development plans reflect the movement to phase 2 of Jacobs' progression. Marshall (1992b, 1993) in his review of the treatment of environmental issues in London UDPs concludes that most are seeking to move beyond merely issues of environmental protection. Yet

"there is little sign of sustainability being addressed in the strong sense - of forming fully binding constraints on developments. But the majority of plans have begun to show a more or less explicit awareness of sustainability issues"(p 12).

He concludes that around a third of plans have carried this awareness forward into their overall strategy, and into sections on development and on transport. The London Planning Advisory Council, meanwhile, under the direction of Martin Simmons, was developing conceptions of both environmental and economic capacity constraints, in its development of a world city economic development strategy for London. Strange et al (1992) reviewing the treatment of environmental policies in UDPs in Greater Manchester, report a slightly slower development:

"In general, the plans are still predominantly concerned with development and growth .. Although the link between environmental quality and economic regeneration is generally acknowledged, not all (plans) relate that understanding to the rationale for the inclusion of environmental policies in their UDPs. Similarly, all of the plans appear to recognize the importance of resource and conservation issues. However, only three plans clearly articulate this issue in relation to the concept of sustainable development" (Strange et al 1992, p 28).

The development of ideas has, however, been rapid. Examples are now appearing of tentative moves towards Jacobs' phase three□. However, most plans are framed in the language of policy expression developed since the 1970s for structure and local plans (see Healey 1983b, DoE 1992d). There is little attempt to frame plan policies to allow systematic calculation of balancing or trade-off among economic and environmental assets, although several plans refer to minimizing environmental impacts. There have been few attempts at an environmental assessment of plans (Wilson 1993; Therivel 1993). Yet, by mid-1993, conceptions of carrying capacity and demand management were receiving a higher profile.

The County Planning Officers Society report on Planning for Sustainability (CPOS 1993) stresses that demand management and carrying capacity are central to the achievement of sustainability understood as concerned with:

"both the consumption of non-renewable resources and the effects of human activity on the environment... planning for environmental sustainability will necessitate vigorous environmental auditing. Until such time as carrying capacities have been established and appropriate policies have been agreed, the precautionary principle should be applied". (P.6)

The Local Government Management Board (1993) in its submission to the government on the UK Strategy for Sustainable Development moves less clearly towards the more radical approach. It stresses four principles of policy choice (p.14/15):

- the precautionary principle
- demand management
- continuous environmental improvement
- the polluter pays,

it emphasizes the role of environmental reporting, strategic environmental assessment, environmental management systems, environmental considerations in investment appraisal and the role of information and education. It calls for a strategic approach, and outlines key considerations, but does not indicate what the economic and social implications of following all the detailed suggestions might be.

Ideas are also developing with respect to the relations between planning systems and infrastructure systems, linked to the practical realization of the meaning of demand management (see the review by Slater et al 1993). It is at this level that the real challenges and conflicts will have to be faced.

To conclude, the environmental discourse expressed within the development plans of the early 1990s and in government guidance thus moved decisively away from the narrow utilitarianism of the 1980s which set development and environment in opposition to each other. The debate is now about the meaning of sustainability, with the terminology of balance and trade-off competing with that of limits, constraints and demand management as government and local authorities struggle to understand the conceptual and operational options. It is still, however, conducted more at the level of rhetoric than at practical realization.

The environmental policy momentum in Britain is now very much in the administrative and professional arena. The implications of this for the power relations supporting the "greening"

of British government policy, and specifically planning policy, are not yet clear. To the extent that ministers and civil servants back the new agenda, there is the opportunity for significant changes in the direction of planning policy, as the new emphasis on public transport seems to indicate. But this rediscovery is also linked to the belated realisation that road building could never keep up with rising demand for road capacity. Government's response to the environmental issues is as much a response to public expenditure constraints as to a real commitment to reduction in local, regional and international environmental degradation. Further, as the operational issues are more clearly understood, their inherent difficulty, both in terms of local variability, and with respect to real choices over short term economic interest and long-term environmental quality, is becoming much clearer (Owens 1993). The Government consultation paper on the UK's Strategy for Sustainable Development shows every sign of back tracking from principles of demand management to the ground of balancing and trade off, where economic considerations have most chance of predominating. Many commentators fear that the "professionalisation" of environmental discourse is serving to divide the new agenda from the popular support it achieved in the 1980s, and thus from the political base to maintain its leverage when the hard choices, both locally and nationally, have to be made. Until the new agenda of the 1990s, in both its weak and strong form, succeeds in influencing these choices, the rhetoric of policy guidance and plan policy will have little impact on decisions. The developing entrenchment of environmental concerns in planning policy thus remains fragile and uncertain.

SECTION 3

Conclusions

3.1 Environment, economy and planning

The above historical account illustrates the way in which the struggle between environmental values and economic priorities has been played out in relation to the regulation of development. Development plans, as texts, both record the accommodations reached between these two concerns in different times and places, and reflect the dominant discourses and power relations of their times. Our analysis has emphasized five dominant discourses through which environmental considerations have been addressed in the planning system and plans. Taking these discourses overall, it is possible to draw out three strands, which prefigure the current debate over the meaning of sustainable development. The first emphasises the environment as functional resource, a reserve of non-renewable resources and amenities for human enjoyment. The environmental concern is with their conservation. During the 1980s, the conception of a "reserve" was increasingly transformed into a notion of tradable assets or commodities, to be priced, using the techniques of environmental economics (Whatmore 1993). This provides a strong foundation for the interpretation of sustainable development in terms of a stock of assets. Environmental economics provides the vocabulary which allows trade-offs between economic and environmental values to be calculated, and appropriate measures for alleviating the adverse environmental impacts of economic actions to be identified and quantified (Pearce et al 1989, Jacobs 1991). So far, the specifics of this discourse have had little impact on the vocabulary and methods of development plan policy specification.

The second strand emphasises the moral and aesthetic notion of the environment as backcloth or setting. The moral dimension of this conception was very clear in the thinking of the pioneer planners, but was soon sidelined into a narrow view of conservation. What evolved instead during the 1960s and into the 1970s was a renewed interest in active stewardship of the natural environment. This provides support for the asset stock conception of sustainable development, in the sense that the stock needs to be improved and its deterioration actively prevented. But it also provides support for the more radical interpretation of sustainable development.

The third strand is less clearly articulated in early environmental debates in the planning system. It is most clearly seen in the discussions in the Northwest plans on how to accommodate expanding agriculture, industrial development, mineral extraction, while improving the quality of urban and rural life. Constraints on economic and social development were deemed necessary to conserve agricultural life and landscape, and to bring air and water pollution within new quality thresholds. The sieve map technology used to identify where development should and should not go also echoes a conception of environmental constraint. What is new is the understanding of the ecological dimensions of such constraints, and their variable local, regional and global impacts. Thus the radical vocabulary of environmental limits, thresholds and demand management has precursors in planning debate.

Yet despite the continuity in these strands of environmental debate, there can be doubt that the postwar history of the planning system has seen the dominance of economic over environmental considerations, just as a narrow environmental conservatism allied with economic emphases allowed the sidelining of social distribution concerns (Hall et al 1973, Ambrose 1986). The economic dominance has been achieved in various ways. At the level of policy discourse, conceptions of the moral value of nature, of environmental stewardship and of preserving an inheritance for future generations have been steadily sidelined. The traditional view of environmental conservation as the management of landed estates gave way to more financially driven conceptions of economic priorities, with the associated emphasis on assets, asset trading and trade-offs. Within the planning system, the tradition of administrative discretion rather than legal rule, and the cultivation of flexibility in administrative guidance has allowed economic interests to be persistently prioritised in disputes over plan content and project permits. This was made more explicit in the 1980s, reinforcing the presumption in favour of development, (DoE 1985). The continued tendency to limit the remit of the planning system, to protect major economic interests, has been a further mechanism for prioritising economic activity.

3.2 Developing environmental sustainability conceptions within the planning system

The challenge for the new environmental agenda is therefore not simply one of developing appropriate conceptions, policy instruments and skills in local operationalisation. It is a political challenge for real leverage over economic discourse - at the level of policy and practice. Only if this happens, will the sustainability objective of a beneficial relation between economic development and global/local environmental quality be achieved. While this is so whichever of the two interpretations of sustainability are adopted, the governmental preference for the conception of balances and trade-offs not only sits more comfortably with economic priorities. It is also more easily subverted, in that environmental limits to trade-offs are not set. It is for this reason that operationalising environmental conceptions of thresholds, carrying capacity and demand management in the context of the planning system should have a high priority in Britain at the present time.

Within environmental debate in the planning system, ideas on how to do this are developing apace (Breheny et al 1992, Williams 1993a, b, CPOS 1993, Owens 1992, 1993, Jacobs 1992). One effect of these debates is to discover the value of the tradition of planning policies. "Old friends" are being refurbished and reinterpreted in the context of the sustainability debate; for example, conceptions of balancing and weighting interests and impacts, the longstanding idea of contained development and the "compact city"; the value of public transport and the parallel between the urban structure idea of "decentralised concentration" (Owens 1991, Breheny 1992) and Howard's notion of garden cities (Orrskog and Snikkars 1992). This gives support to those planning officers and civil servants who want to argue that past planning policies turn out to have been quite environmentally friendly. By implication, more of the same could be a sufficient response.

Yet this ignores the scale of the challenge outlined above. The traditional planning agendas have typically been judgemental rather than calculative in form. As such, there are major problems incorporating the language of trade-off and balance in any other form than as vague professional and administrative policy criteria. The increasing interest in identifying the impacts of development in order to address more systematically the dimensions and values of a balancing or trade-off judgement require more systematisation and precision if the

notion of an environmental stock is to be operationalised. In the present context, with the dominance in government policy of instrumental rationality and economic conceptions of public policy practice, it is not enough to point out that converting environmental considerations to questions of stocks and trade-offs is limited as an approach to the issues. It is necessary to illustrate these limitations by attempting to work out what such an approach would involve. Thus, as a critical enterprise, more effort should be put into developing a calculative approach to balancing environmental and economic considerations within the planning system (Jacobs 1991), at the least in order to identify and thereby if necessary challenge the conceptions being used in calculative approaches. But if the effort to incorporate the new environmental agenda stops here, it will remain within a conception of the environment as a set of stocks and commodities to be balanced against other assets. It will also fail to give attention to the social and economic relations through which human societies interact with the biosphere.

Developing the more radical conception of environmentally sustainable strategy requires attention at both the level of technique and the level of value. As regards technique, more work is needed to operationalize conceptions of limits and carrying capacities understood in terms of environmental and social relations, and of demand management within these capacities. All the work currently underway in local authorities on environmental audits, target setting, developing monitoring indicators and on the environmental impacts of plans should help in this respect. Several planning authorities are now working on these issues, which should make it easier to "tell the difference" - between a plan which has real potential for environmental leverage on economic development and one which does not; and between one which moves beyond a balancing conception of sustainable development, to one based on a relational approach to environmental capacities.

The debates are not, however, solely a question of technical calculation. It is also important to consider how values are addressed. Contemporary environmental economics argues that value can be identified in terms of individual preferences for the conservation of particular assets and stocks. However, arriving at such preferences requires considerable abstraction, in the construction of both the objects of preferences and the way people express preferences. The limits of instrumental rationality in dealing with value in public policy is now widely understood (Fischer 1990). The alternative is to turn to the discourse of moral philosophy. This accounts for the very considerable contemporary interest in environmental ethics (Beatley 1989). Judgemental, as opposed to calculative, decision-making has characterised the planning system, reflecting the complex relations between sets of factors which a planning decision may typically involve. However, until recently, little attention has been given to how to debate moral values in the context of development plan policies. Further moral debate by itself will not make explicit the context within which values are established. This takes the debate back to the arena of the social construction of environmental values and our attitudes to nature (Beatley 1989, Goodin 1992, Harvey 1993). It is here in the end that we must find a way of addressing the way forward in integrating environmental considerations within other dimensions of the management of spatial and land use change.

The innovatory effort required to achieve the entrenchment of the new environmental agenda within the planning system is therefore substantial. The overall effect, however could be to move the planning system decisively forwards to a regulatory regime which focuses explicitly and specifically on assessing, alleviating and compensating for the adverse impacts of development projects, within a framework of precautionary limits, informed by an

argumentative approach to planning debate which allows both technical and moral/aesthetic issues to be discussed in an open, democratic way. Such an approach could enable citizens and business to sort out ideas about appropriate thresholds and policy criteria, informed by technical knowledge and acknowledging the need to observe environmental constraints necessary to achieve targets at supra-local as well as local scales (see Healey 1992, 1994). For both, the moral dimension of debate in dealing with environmental questions, and the widely recognized limits of scientific understanding (see Gibson 1992) and hence the need to make judgements about degrees of risk, emphasize the importance of broadly based democratic processes in addressing planning policy issues. The making of judgements is an issue for politics not techniques, and planning decisions cannot be left to an administrative/technical nexus or to economists or natural scientists. The reason why the issue of democratic decision-making arises so frequently in debates on environmental issues is that the making of difficult, risky decisions needs to be widely shared among the diverse interests of a community if there is to be any chance of "entrenching" environmental criteria in stable planning strategies which are sustained on implementation.

Thus the impacts of the new environmental agenda on the planning system could be to encourage not a reinforcement of traditional strategies and policies, but a fundamental re-thinking of its form and content, in terms of conceptions, technical methods and policy processes. As others have argued (Gibson 1992, O'Riordan 1992, Orrskog and Snikkars 1992, Owens 1993), this could also lead to fundamental institutional changes, to allow intersectoral coordination and a strong emphasis on regional strategy.

But the power of the environmental agenda to force changes within the planning system, and more generally, in the institutional arrangements for managing environmental change in localities, is limited by a substantial "knowledge deficit" (Gibson 1992, Boehmer-Christiansen 1992). The inevitability of such a deficit has led to an interest in risk assessment and an appreciation of risk-taking in environmental decision-making (Beck 1991). Environmentalists argue that the moral approach to risk should emphasize the precautionary principle. However, this runs contrary to the "presumption in favour of development" (Purdue 1991). It is this latter principle which remains as current government policy in Britain. It has also been a powerful policy principle throughout the postwar period, encapsulated in the concept of the "national interest".

The critical problem, for planning strategies and for the environmental agenda generally, is that, while it is possible to imagine at a general level a beneficial calculus, where environmental priorities, economic development and social justice are mutually reinforced, as envisaged by Brundtland, the practical reality is that, at the level of neighbourhoods, cities and regions, there are a multiplicity of conflicts between priorities. These conflicts are played out both in philosophical debate (do we control nature or control ourselves?), as Beck argues (Hajer 1992); and in the fine grain of policy implementation (Weale 1992).

It is therefore important to monitor carefully and critically the way the new environmental agenda is now being developed within the planning system. Given the current emphasis on the development plan in guiding planning decisions, the arena of the formulation and debate over plan policies and their effectiveness in implementation provides a rich opportunity to observe the opportunities and limits on operationalizing the environmental agenda.

- . The scope of development plans, and the relative role of structure and local plans, has been a subject of controversy for many years (Healey 1983).
- . see recent government guidance, in particular Planning Policy Guidance 12: Development Plans and Regional Guidance (DoE 1992a) and ministerial speeches, for example Young 1992.
- . This requires development control decisions to be made in "accordance with" the development plan.
- . The intellectual problem is at the heart of the study of geography; the institutional problems arise because the activities which generate land uses tend to be treated as distinct sectors in government policy. One consequence is that the new environmental agenda is often treated as a specific sector in contemporary plan-making.
- . see Healey 1988, Grant 1992
- . This was strongly emphasized by McAuslan 1980, and has not changed substantially since
- . see This Common Inheritance Secretaries of State 1990
- . see Williams 1993a, CPOS 1993, Blowers ed 1993
- . The DoE presents the planning system as one of the key regulatory tools in its ideas for a Sustainable Development Strategy (DoE 1993)
- . The phrase "interests of acknowledged importance" was revived in DoE Circular 14/85 (DoE 1985) to refer to situations where the presumption in favour of development might be overridden.
- . For example the special planning regime, Enterprise Zones and the planning powers of Urban Development Corporations.
- . The new environmental ideologies challenge in particular modernist preoccupations with material growth and economists' concentration on evaluating the financial costs and benefits of policies and projects. See Jacobs 1991, Hajer 1992, Dryzek 1990, Flyvberg 1991, Goodin 1992, Harvey 1993.
- . see the environmental assessment legislation and the EC's Green Book on the Urban Environment (CEC 1990)
- . see for example, Hardy 1990, Blowers ed 1993, McLaren 1990, Atkinson 1990.
- . see the World Conservation Strategy 1980 produced by the International Union for the Conservation of Nature and national Resources, Gland, Switzerland
- . see for example, Pearce et al 1989 Chap 2; Blowers 1992 p 133.
- . see Jacobs 1991, Ekins ed 1986, Hajer 1992, and, in the planning field, Williams 1993a, 1993b, Marvin 1992.
- . see for example Elkin and McLaren 1991, who advocate "sustainable resource balances" in localities
- . see for example Mingione 1991; Harvey 1989.
- . The term discourse is here used to refer to a system of meaning, expressed in policy language, policy theories and metaphores.
- . This principle, according to Purdue (1991) means with respect to planning law, that "the risk of damage to the environment should be reduced even where it cannot absolutely be proven that damage will occur". As he argues, this goes directly against current government policy that planning permission should only be refused where harm to interests of acknowledged importance can be demonstrated
- . There is, however, no easy relation between participatory democracy and radical environmentalism. The core of the problem here is that conceptions of operating within environmental limits, or, more fundamentally, within particular notions of the relation between people and nature, mean that some people's interests and values will have to be

limited. Getting general agreement on this is inevitably a time-consuming and conflictual process; yet some environmental risks appear to need action now.

- . Birtles et al 1992 and Blowers 1992, for example
- . see The Planner and Town and Country Planning from 1990 onwards, the work of Owens, Marshall and Rydin, CPOS 1993, Blowers ed 1993, DoE/DTP 1993
- . This Common Inheritance (Secretaries of State 1990) was the Government's first exercise in greening its overall policy agenda
- . see statements by Minister Howard in 1993 as quoted in Planning 1014 and DoE/DTP 1993)
- . There has been much debate since the 1970s which contests this view, see the Dobry Report (DoE 1975), and, more recently Davies and Rowley 1986 and the recent Audit Commissioner's Report on Development Control (Audit Commission 1992)
- . see Blowers 1982, Wood 1989
- . see Healey et al 1993, Lichfield 1989, 1992, Cowell 1993. A significant dimension in this debate is whether it is legitimate to compensate for impacts by actions elsewhere. A balancing approach would allow this. A more radical approach would not
- . My thanks to planning officers in Tunbridge Wells for providing examples of such modifications. See also comments in Planning 1992 30.10.92 p.2. and Purdue 1991
- . It is this kind of "cosy corporatism" which has typified the treatment of agriculture and pollution control until recently
- . Particularly valuable here are the work of Owens (1986, 1991, 1992) on energy and a recent study of the DoE by ECOTEC on land use planning and transport (DoE/DTP 1993).
- . For the analysis of planning discourse, see Throgmorton 1991, Healey 1993, Tait and Wolfe 1991 and Hillier 1993, Myerson and Rydin 1991
- . The plan used the sieve map technique to filter out areas not suitable for development for topographical or policy reasons
- . These, and the energy industry, were the "interests of acknowledged importance" to be given special attention in development control decision-making. The phrase was revived in 1985 (DoE 1985), but by this time, it was much less clear what such a phrase could mean!
- . The planner at this period had a powerful position as both expert and evangelist
- . This is evident in the Greater London Plan's discussion of Design and Amenities, Chapter 13
- . Keeble's textbook on the period provides planners with a simple calculus, which started with estimates of population, and then derived amounts of industry and services from the job and consumption needs of that population (Keeble 1959)
- . Geological and geographical foundations, including natural resources, above which were economic levels of trade and labour, above this was the sociological structure, and finally, the "visible parts of the city" (ie: physical structures)
- . This is strongly evident in Sharp's plan for Oxford (Sharp 1948).
- . Such growth accommodation was labelled Britain in the 1970s as "restraint policy", and in the US in the 1980s as "growth management".
- . This concept derives from Buchanan's ideas on traffic management, see Buchanan (1963).
- . see Sharp, quoted in Allison 1975 pp.66-67
- . Note the Countryside in 1970 initiatives through the 1960s, and the creation of the Countryside Commission in 1968 which promoted this agenda. The particular concern was with managing conflicting demands for access to and use of land in the countryside
- . CES 1973, Healey 1985

- . It was still very much within the tradition of "economy, convenience and beauty" as the objectives of the planning system (see Abercrombie 1933, Keeble 1959).
- . This concern centred on the realization of limits to environmental capacities, and the long-term consequences of short-term environmental neglect. The Aberfan tragedy, the publication of Rachel Carson's *Silent Spring* (Carson 1962) and the *Limits of Growth* (Meadows et al 1972) helped to frame these concerns. The OPEC oil crisis of 1973 also helped to focus attention on energy conservation.
- . The DoE reacted negatively to these issues when they were reflected in policies in structure and local plans as they were considered outside the remit of what could be pursued "with planning powers" (Healey 1983)
- . Environmental issues were represented in local politics through an interest by miners' groups in energy conservation, reflecting the response to the OPEC oil crisis. (Our thanks to Tim Marshall for reminding us of this point).
- . see Healey 1983. This concern thus reflected the sectoral organization of central government. It can also be interpreted as part of a continual struggle in government to prevent local planning policies straying into and constraining the activities of other government departments and particularly their relations with specific economic sectors.
- . The Strategic Plan for the South East 1970 predicted that sufficient land had already been allocated in the late 1960s to accommodate development until 1980.
- . see Elson 1986 Chapter 10.
- . This arose as local authorities refused developments on environmental grounds. Developers then appealed, hoping for a more favourable view from central government.
- . Hertfordshire was unusual in that all districts produced District-wide local plans.
- . See for example, the Lancashire Structure Plan 1986/1990 and the 1989 alteration to the Cheshire Structure Plan
- . see Bosworth 1993, Raemakers and Wilson 1992
- . Despite the innovative activity of some of its members, the RTPI has been very slow to take up the issue of environmental sustainability. The Town and Country Planning Association, in contrast, vigorously promoted debate, culminating in the substantial policy report on *Planning for a sustainable Environment* published in 1993 (Blowers ed 1993).
- . Marshall 1992b identifies the Ealing UDP as one of the most innovative in his survey of the treatment of environment in London UDPs.
- . The contrast between DoE guidance on development plans in 1988 and 1992 illustrates this clearly (DoE 1988, 1992a).
- . The discussion of development impacts was in any case given prominence as a way forward in the long-standing debate on "planning gain", see Delafons 1991, Healey et al 1993
- . This issue is causing considerable debate in the professional community. The phrase is seen by some as privileging development excessively. Others see it as merely a question of legal terminology. For a legal view of the debate, see Purdue 1991.
- . see Planning 1026 pp.18-20
- . see the development of ideas between the consultation and deposit versions of the UDPs for Newcastle, Manchester and Sheffield. See also the content of recent Structure plans notably Kent and Lancashire.
- . The recent introduction of fuel taxes in the 1993 Budget is a clear illustration of this.
- . See O'Riordan 1993, Blowers 1993, Owens 1993, Hajer 1992, for pessimistic comment on the prospects of effective operationalization environmental agenda in British public policy.

- . Of particular interest here is the clash within the planning system between policy discourse derived from economics, and the traditional administrative-legal discourse of the planning system.
- . Work in Sweden and the Netherlands provides helpful ideas in this regard (see Nijkamp et al 1992, Orrskog and Snikkars 1992).
- . We are grateful to Tim Marshall for reminding us to insist on this point.