

SUSTAINABLE DEVELOPMENT AND POPULAR PARTICIPATION: A FRAMEWORK FOR ANALYSIS

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INTRODUCTION

Both 'sustainable development' and 'environmental management' have become buzz-words in development policy circles, but the discussion surrounding these terms pays scant attention to the way in which people in developing countries participate in the management of their resource base and, through their participation, help to transform the practice of environmental management. This chapter, in addressing these issues, seeks to correct two kinds of bias which exist in much of the sustainable development debate. First, there is a bias towards 'managerialism' rather than resource management, stemming from a top-down approach to local-level development. Second, there is a tendency to treat 'sustainable development' as merely a variation of the prevailing Northern, economic-centred world view of development problems, and to see sustainability as a goal which can be attained through making adjustments to the standard development models.

This chapter, in contrast, will argue that the concept of sustainable development needs to be recognized as an alternative to the prevailing view, rather than a modification of it. The approach taken here reflects a way of examining resource conflicts – through political economy – that some might not share. The emphasis is placed on the structural determinants of local-level decision-making, at the local, national and international levels, rather than on a more 'human resources' or interactional approach. At the same

time, the analysis emphasizes that what distinguishes environmental concerns in the North from those of poor areas of the South is not simply material conditions, but different epistemologies, different systems of knowledge.

The first sections of this chapter analyse the concept of sustainable development, and seek to enlarge the conceptual discussion on this topic in order to take more account of some of the inconsistencies and limitations of the definitions currently available. The current thinking in environmental economics, which has gained favour within some international development agencies, and which emphasizes the use of calculations of the environment's value, is critically discussed. The economists' rather limited technical treatment is compared with a more thoroughgoing account of the economic, political and epistemological dimensions of sustainable development.

In this context, some of the new approaches which outside development agencies are currently taking towards local-level environmental management are briefly discussed. Next, the chapter examines some instances of conflicts over resource use which have prompted popular participation and struggles to gain greater local control over the environment. The analysis focuses on situations in which natural resources are highly valued and have been heavily contested politically.

The final section of the chapter outlines an approach to contested environments which departs radically from the analysis of most development agencies by focusing attention on power and political mediation in the resolution of environmental conflicts at the local level. In this section the chapter tries to incorporate some experiences of poor people's participation in resource management in order to set out a framework for analysis that takes into account both the need for popular participation and the utility of local-level environmental management as complementary facets of the problem. It is hoped that, through addressing the political problems associated with local resource management, as well as through developing a more rigorous analysis of the terms under which poor people and their environments are incorporated within development policy, we will begin to identify the potential for determining better policy interventions which is contained in the struggles and resistance of the rural majorities in the South.

SUSTAINABLE DEVELOPMENT: CONCEPTS AND CONTRADICTIONS

The problem with using the term 'sustainable development' is that it has proven difficult to formulate a definition of it which is comprehensive but not tautological, and which retains analytical precision. In this it is similar to many terms in the development lexicon, whose very appeal, it can be said, lies in their vagueness. 'Sustainable development' means different things to ecologists, environmental planners, economists and environmental activists, although the term is often used as if consensus exists concerning its desirability. Like 'motherhood' and 'God', sustainable development is invoked by different groups of people in support of various projects and goals, both abstract and concrete.

One of the sources of the conceptual confusion surrounding the term 'sustainable development' is that no agreement exists regarding what exactly is to be sustained. The goal of 'sustainability' sometimes refers to the resource base itself, and sometimes to the livelihoods which are derived from it. Some writers refer to sustaining levels of production, while others emphasize sustaining levels of consumption (Redclift 1987). This divergence in emphasis is important since what makes continued 'development' unsustainable at the global level is the pattern of consumption in the rich countries, while most policies designed to tackle development problems, including those which fit within the 'sustainable development' idiom, are essentially production-oriented.

The different uses made of the concept of sustainable development reflect varying disciplinary biases, distinctive paradigms and ideological disputes. In our view there are also at least two sets of contradictions which soon become evident when sustainable development is discussed.

First, embedded in much of the 'sustainability' thinking is an important difference of emphasis. For some writers, the principal problem to be addressed is that 'human progress' carries implications for nature itself, and should cause us to re-examine the 'ends' of development, as well as the means (Devall and Sessions 1985). Others view sustainability as a serious issue because nature is a major constraint on further human progress. They are concerned, basically, with the constraints that will be imposed on the conventional growth model if the warnings we receive from the environment, the 'biospheric imperatives', are ignored. The solution,

according to this view, is either to develop technologies which avoid the most dire environmental consequences of economic growth, or to take measures to assess and 'price' environmental losses in a more realistic way, thus reducing the danger that they will be overlooked by policymakers.

Second, when 'sustainable development' is considered within a North-South framework, attention must be paid to the contradictions imposed by the structural inequalities of the global system (Brundtland Commission 1987; Redclift 1987). Green concerns in the North, such as alternatives to work and ways of making work more rewarding, can often be inverted in the South, where the environment is contested not because it is valued for its amenities or aesthetic value, but primarily because its exploitation creates economic value.

In the North, natural resources are also a source of value, and conflict between those who want to exploit them for commercial gain and those who wish to conserve the 'countryside' is often highly charged. However, the very fact that conservation issues are given increasing weight in planning decisions in the developed countries bears witness to the shift in priorities which occurs in the course of 'development'. In urbanized, industrial societies, relatively few people's livelihoods are threatened by conservation measures. The 'quality of life' considerations which play such a large part in dictating the political priorities of developed countries surface precisely because of the success of industrial capitalism in delivering relatively high standards of living for the majority (but by no means all) of the population.

In the South, on the other hand, struggles over the environment are usually about basic needs, cultural identity and strategies of survival, rather than about providing a safety valve within an increasingly congested urban space. Under these circumstances, when the individual and household are forced to behave 'selfishly' in their struggle to survive, there is no point in appealing to idealism or altruism to protect the environment.

SUSTAINABLE DEVELOPMENT ALTERNATIVES

Of the two major trends in sustainable development thinking, one, exemplified by the economic approach taken by Pearce *et al.* in *Blueprint for a Green Economy* (1989), fails to take into consideration the contradictions discussed above. 'Sustainable development',

in this view, is treated as a modification of traditional development strategy, rather than an alternative to it, and this approach is therefore limited in scope and application. The second major trend, exemplified by the Brundtland report, *Our Common Future* (Brundtland Commission 1987), treats sustainable development as alternative concept of development, and therefore, in the end, shows more promise.

A common point of departure for a discussion of sustainable development is to define it as what Barbier (1989) refers to as *sustainable economic development*. This is an optimal level of interaction between three systems – the biological, the economic and the social – which is achieved 'through a dynamic and adaptive process of trade-offs' (Barbier 1989: 185). Many economists, notably David Pearce, also emphasize the *trade-offs* between systems, or between present and future needs, as the key issue (Pearce *et al.* 1989). In similar terms it is argued that 'sustainable economic development involves maximizing the net benefits of economic development, subject to maintaining the services and quality of natural resources over time' (Pearce *et al.* 1989), and that '[sustainable development] is development that maintains a particular level of income by conserving the sources of that income: the stock of produced and natural capital' (Bartelmus 1987: 12). For economists interested in the environment, then, procedures such as environmental accounting, which aim to give a numerical value to the environment and to environmental losses, are essential instruments for the achievement of greater sustainability.

In Chapter 3 of *Blueprint for a Green Economy* Pearce and his colleagues argue, from a declared interest in environmental quality, that environmental improvements are equivalent to economic improvements 'if [they] increase social satisfaction or welfare' (p. 52). The resolve of these economists is to demonstrate that there are economic costs in ignoring the environment. This approach is growing in influence within international development agencies such as the World Bank, the United Nations agencies and the Overseas Development Administration (ODA) (see World Bank 1987, 1988a, 1988b). Although all of these organizations have been strongly criticized in the past for funding development projects with very damaging ecological effects, such as cattle ranching in Central America, their new approach has, in a relatively short space of time, become almost synonymous with effective environmental management in many people's estimation.

One of the main problems with this view of environmental management is that it works better for developed than for developing countries. Most neo-classical economists use the 'willingness to pay' principle as a means of assessing environmental costs and benefits, and Pearce argues that the emphasis in environmental policy should be shifted towards this principle to avoid future damage to the environment (Pearce *et al.* 1989: 55). It is not hard to appreciate some of the difficulties in applying the new environmental economics when we consider developing countries. As Pearce *et al.* (1989) demonstrate, there is widespread popular concern about the environment in the North, where environmental quality is often placed before economic growth in surveys of public opinion. In the South, on the other hand, immediate problems of acquiring subsistence needs preclude extensive and expensive efforts to improve the environment. In this sense, it is not useful to attempt to quantify the developing countries' 'willingness to pay' for improved environmental quality, when their access to merely the basic livelihood essentials typically requires the sacrifice of environmental quality for short-term economic gain. Their ability to pay, or effective demand for environmental quality is so limited under these circumstances that attempts to construct a level of 'willingness to pay' must be speculative at best.

These uncomfortable facts have important implications for the ultimate utility of efforts to quantify assessments of environmental value in the Third World. No matter how complex and sophisticated the price imputation techniques, for instance, the revaluation of tropical forest to include its 'full' environmental value would do little directly to prevent forest destruction, although it might serve to highlight the scale of the problem. Colombia's foreign debt, which requires the country to obtain foreign currency, enables the transnational companies buying valuable hardwoods in protected areas to pose as national saviours, rather than national vandals.

Equity considerations, in this context, are not necessarily a minor element in total utility, as Pearce suggests (Pearce *et al.* 1989: 48), but are often the driving force behind indiscriminate resource degradation, and must be recognized as such. The process of environmental degradation, including the wanton destruction of primary tropical forest, needs to be viewed within the context of highly unequal landholding, which forces poor men and women to colonize the tropical forests and other untitled land. In situations like those of tropical Colombia and Brazil we need to specify

greater equity, or the reduction of poverty, as the *primary objective* of sustainable development, before the question of environmental quality can be fully addressed.

It is also essential that we widen the discussion of sustainable development to include the immediate influences of national and regional policies on environmental management decisions taken at the local level. It is at this level that we are least able to provide a clear framework of policy interventions, although a start has been made (IUCN 1988). There is considerable evidence, much of it drawn from the experience of people living within fragile environments, about alternative, more sustainable uses to which resources can be put. In addition, largely because of the work of Pearce and other economists who take the environment seriously, we now have a much better basis from which to conduct environmental accounting within such environments.

These important advances, however, do not imply that the reformulation of environmental policy in developing countries should be confined to an assessment of environmental and economic 'trade-offs', for to do so would mean ignoring other essential points of reference. These include the regional and national political economy of resource use, as well as dimensions of social justice which provide the backcloth against which much environmental degradation occurs. On its own, resource accounting also tacitly endorses a highly ethnocentric, and 'North-biased' view of the development process. Without attention to the analysis of resource use decisions, and the way these are influenced by structures of power and social relations at the community level within the South, we are unlikely to be able to influence the behaviour of people who cut down primary forests in order to make a living.

An approach that is ultimately more successful than these primarily economic views of sustainable development is that taken by the Brundtland Commission's report, *Our Common Future* (Brundtland Commission 1987). Although the economic concept of discounting plays a key role in the report, Brundtland immediately enlarges the compass of the debate about sustainability to include consideration of non-economic factors. *Our Common Future* places the emphasis of the discussion of sustainable development on human needs, rather than on the trade-offs between economic and biological systems. While the future effects of present economic development are a central concern of the report, costs and benefits (both present and future) are assessed not only on economic grounds, but also in political, social and cultural terms.

In fact, Brundtland mapped out a very political agenda for shifting the emphasis of development, for the North as well as the South, without departing from the language of consensus. According to the Commission, 'sustainable development is a process in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are all in harmony, and enhance both current and future potential to meet human needs and aspirations' (Brundtland Commission 1987: 46).

One of the important things to notice about the approach taken by the Brundtland Commission is that it regards sustainable development as a policy objective, a methodological approach *and a normative goal*, quite properly the end-point of development aspirations. Many economists acknowledge that normative considerations are important, but few would be prepared to state as unequivocally as does Brundtland that, without normative goals of this kind, improved methodologies and better designed policies will prove unworkable. Brundtland places the responsibility for environmental problems, and for mobilizing the political will to overcome them, firmly in the hands of human institutions and interests. Although the report remains committed to convergence and consensus, rather than divergence and conflict, as a means of achieving sustainable development, the clear implication of Brundtland (and one that has broad appeal in the South, if not the North) is that *unless the political and economic relations that bind the developing countries to the developed are redefined, sustainable development will prove a chimera*.

It is worth noting that some authors, including people like Robert Chambers, who contributed to the Brundtland process, take an even more 'human-focused' approach than that reflected in the report. Chambers argues for using 'sustainable livelihood security' as an integrating concept (Chambers 1988). For Chambers, the sustainability of the resource base makes little sense if it is separated from the human agents who manage the environment. Gordon Conway similarly emphasizes human actors in development. In a series of very influential papers, he argued that 'sustainability [is] the ability to maintain productivity, whether of a field, farm or nation, in the face of stress or shock' (Conway and Barbier 1988: 653). Originally, Conway had been thinking primarily in ecological terms, about the ability of natural systems to cope with system disturbance, and this led him to seek to define a concept which

retained the idea of system disturbance, but incorporated a concern for the context of decision-making within which poor rural households operate.

It has been left to the sociologists and anthropologists to take further the discussion of the human agency in sustainable development. In this context, both the participation of people in environmental management at the local level, and the relationship between the implementation of empowering strategies and successful sustainable development, are essential issues to explore.

The multiple dimensions of sustainable development

To establish an adequate conceptual framework within which to explore the issue of participation in sustainable development, we need to identify the multiple dimensions of the concept. There are three dimensions which require our attention: the economic, political and the epistemological.

The economic dimension

As we saw in the discussion of environmental accounting, much of the economic argument has been conducted at the level of present and future anticipated demand, assessing the costs, in terms of foregone economic growth, of closer attention to environmental factors. It was John Stuart Mill, in his *Principles of Political Economy* (1873), who emphasized the idea that we need to protect nature from unfettered growth if we are to preserve human welfare before diminishing returns begin to set in. Malthus had earlier stressed the limits of the carrying capacity of the environment, although his emphasis was on the adverse effects that population pressure would have on consumption, rather than on the impact of environmental degradation itself.

Mill's concern with the environment, which today we would identify as part of the alternative, sustainable tradition of thought, has not been integrated into the mainstream of economic theory during this century. Following Ricardo's much more optimistic assessment of the potential of technology to overcome the limitations of existing resources, the more recent tradition has been to rely on humankind's promethean spirit and ingenuity to enable society to make scientific and technological advances capable of

'putting back' the day in which population growth would begin to overtake available resources.

This optimism was shaken, although not destroyed, by the publication of *Limits to Growth* in the early 1970s (Meadows *et al.* 1972). This influential book argued that natural resources were indeed in short supply, undermining the assumption that humankind could continue to overcome the obstacles placed in its path by nature. The 1970s was a time in which – particularly following the oil price shocks – economic growth endangered the planet, primarily because the clamour for growth had meant the neglect of the environment on which growth was dependent. Twenty years later, the situation in the developed world is different: today we are beginning to be aware that it is the damage to our environment, caused by a heavy dependence on fossil fuels to drive industrial growth, that potentially imperils our ability to continue to support industrial society. The global externalities today, notably the greenhouse effect and the depletion of the ozone layer, are not the product of scarcity but of reckless and unsustainable production systems.

The political dimension

The political dimension of the concept of sustainability comprises two separate but related elements: the weight to be attached to human agency and social structure, respectively, in determining the political process through which the environment is managed, and the relationship between knowledge and power in popular resistance to dominant world views of the environment and resources. In both cases it is useful to draw on a body of emerging social theory which has evolved and gained currency with environmentalism has risen to prominence.

The problem of human agency in relation to the environment is well recognized in the literature, especially by geographers (O'Riordan 1989). It is also a central concern of sociologists, although rarely linked to environmental concerns *per se*. The British sociologist Anthony Giddens has devoted considerable attention to what he describes as a theory of 'structuration', which would enable us to recognize the role of human beings within the broad structural context in seeking to advance their individual or group interests (Giddens 1984). Giddens notes that 'human agents ... have as an inherent aspect of what they do, the capacity to

understand what they do while they do it' (Giddens 1984: xxii). It is their *knowledgeability* as agents which is important. Although Giddens does not apply his ideas specifically to environmental questions, they have clear utility for any consideration of the political and social dimensions of sustainability.

An examination of the ways in which power is contested helps us to explain human agency in the management of the environment, as well as the material basis of environmental conflicts. In this sense it is useful to distinguish between the way human agents dominate nature – what has been termed 'allocative resources' – and the domination of some human agents by others, or 'authoritative resources' (Giddens 1984: 373). Environmental management and conflicts over the environment are about both processes: the way groups of people dominate each other, as well as the way they seek to dominate nature. Not surprisingly, the development, or continuation, of more sustainable livelihood strategies carries important implications for the way power is understood between groups of people, as well as for the environment itself. The 'green' agenda is not simply about the environment *outside human control*; it is about the implications for social relations of bringing the environment within human control.

The second question of importance in considering the political dimension of sustainability is the relationship between knowledge and power, a dimension often overlooked by observers from developed countries when they turn their attention to poorer societies. As we shall see in a moment, the consideration of epistemology in sustainable development carries important implications for our analysis, since it strikes at the cultural roots of quite different traditions of knowledge. It is also important to emphasize, however, that knowledge and power are linked, as Foucault observed in much of his work (Smart 1985; Sheridan 1980). We can, following Foucault, distinguish three *fields of resistance* to the 'universalizing' effects of modern society, and these fields of resistance are particularly useful in delineating popular responses, by the rural poor in particular, to outside interventions designed to manage the environment in different ways.

The first type of resistance is based on opposition to, or marginalization from, production relations in rural societies. This is resistance against *exploitation*, and includes attempts by peasants, pastoralists and others to resist new forms of economic domination, which they are unable to control or negotiate with.

The second form of resistance is based on ethnic and gender categories, and seeks to remove the individual from domination by more powerful groups whose ethnic and gender identity has conferred on them a superior political position. In many cases the only strategy open to groups of people whose environmental practices are threatened by outsiders, and whose own knowledge, power and identity are closely linked with these practices, is to seek to distance themselves from 'outsiders' by, for example, reinforcing ethnic boundaries between themselves and others.

Finally, poor rural people frequently resist *subjection* to a world view which they cannot endorse, in much the same way as people in developed countries often confront 'totalizing' theories, such as psychoanalysis or Marxism. In the South, development professionals frequently have recourse to a body of techniques for intervening in the natural environment which are largely derived from developed country experience. 'Environmental managerialism' is one way of describing these techniques. The refusal to be subordinated to a world view dominated by essentially alien values and assumptions marks resistance against subjection. This does not imply that such resistance should necessarily be equated with political struggle, whatever the basis of the resistance itself. Frequently, people who are relatively powerless, because their knowledge-systems are devalued, or because they do not wield economic power, resist in ways which look like passivity: they keep their own counsel, they appear 'respectful' towards powerful outsiders, but they simply fail to cooperate.

The epistemological dimension

Sustainable development is usually discussed without reference to epistemological issues. It is assumed that the system of acquiring knowledge in the North, through the application of scientific principles, is a universal epistemology. Anything less than 'scientific knowledge' hardly deserves our attention. Such a view, rooted as it is in ignorance of the way we ourselves think, as well as of other cultures' epistemology, is less than fruitful. Goonatilake (1990) reminds us that large-order cognitive maps are not confined to Western science, and that in Asia, for example, systems of religious belief have often had fewer problems in confronting 'scientific reasoning' than has the Judaeo-Christian tradition. The ubiquity of Western science, however, has led to traditional knowledge

becoming 'fragmented' in the South, increasingly divorced from that of the dominant scientific paradigm.

The philosopher Feyerabend, in his influential book *Farewell to Reason*, has distinguished between two different traditions of thought, which can usefully be compared with 'scientific' and 'traditional' knowledge. The first tradition, which corresponds closely to scientific epistemology, is the *abstract tradition*. This enables us 'to formulate statements [which are] subjected to certain rules [of logic, testing and argument] and events affect the statements only in accordance with the rules. ... It is possible to make scientific statements without having met a single one of the objects described' (Feyerabend 1987: 294). He gives as examples of this kind of tradition elementary particle physics, behavioural psychology and molecular biology. In contrast, the kinds of knowledge possessed by small-scale societies Feyerabend would label as *historical traditions*. In these epistemological traditions 'the objects already have a language of their own', and the object of enquiry is to understand this language. In the course of time much of the knowledge possessed by people outside mainstream science, especially in developing countries, becomes encoded in rituals, in religious observations and in the cultural practices of everyday life. In societies which make an easy separation between 'culture' and 'science' such practices can easily be ignored, although they are frequently the key to the way environmental knowledge is used in small-scale rural societies.

It is evident from some of the cases discussed briefly in the later sections of this chapter that any view of epistemology which rests solely on Northern experience will often fail to galvanize opinion among people such as the Brazilian rubber tappers or the Indian women involved in the Chipko movement. What is required is the admission that we are dealing, when we observe local resource management strategies, with *multiple epistemologies* possessed by different groups of people. Furthermore, the existence of global environmental issues, and the reporting of these issues by the media, forces us to consider the links between local epistemologies (all of which have evolved from their own encounter with other systems of thought, and are not fixed, 'traditional' systems) and global systems of knowledge.

THE RURAL POOR AND SUSTAINABLE DEVELOPMENT: OUTSIDE INTERVENTION, INSIDE KNOWLEDGE

The first part of this chapter has sought to extend the definition of 'sustainable development' by enlarging the compass of debate, and considering the dimensions of sustainability which usually lie outside the parameters of most Northern environmental policy interventions. As such it represents a contribution to the still small body of work which has begun to examine the links between local environmental knowledge, political processes and the management of resources (McNeely and Pitt 1985; IUCN 1989; Norgaard 1985). By enlarging the discussion it is hoped that we can begin to get at the texture of 'actually existing' sustainable practices, and thus to make more qualified decisions about the direction that future policy should take. The remainder of the chapter employs the framework of sustainable development outlined above in order to consider the role of external agencies and local knowledge in a more genuinely participatory view of resource management.

Because environmental management in the North utilizes a scientific epistemology, development 'experts' frequently devalue the contribution of local knowledge to environmental planning and policy and, simultaneously, assume that local people should 'participate' in sustainable development. However, it is not clear why or how poor people can retain their knowledge systems, and put them to practical use within development activities, while 'participating' in other people's projects.

Rural people are unlikely to perceive the problems which face them in everyday life as 'environmental problems'. Nevertheless, the 'answers' arrived at by the state, and other outside institutions, make assumptions about what is beneficial for people, and ways in which the environment can be more effectively managed (Blair 1990). In fact, the approaches of outside agencies frequently address the problems of the agencies themselves, rather than those of the rural poor or their environments. To most poor people in rural areas, for whom daily contact with the environment is taken for granted, it is difficult, if not impossible, to separate the management of production from the management of the environment, and to form part of the livelihood strategy of the household or group. It is increasingly recognized by many development agencies, notably NGOs working in developing countries, that the sectoral, 'single-

problem' approach to policy and planning undertaken by most official bodies prevents a workable assessment of sustainable development options.

The current call for more participatory approaches to local-level environmental management stems from the failure to recognize the importance of popular participation in influential reports such as those of Brandt (1980) and Brundtland (1987) as well as the original World Conservation Strategy document (IUCN 1980). It also reflects the acknowledgement that national governments are less likely to ignore international opinion when it is buttressed by popular, grassroots support.

The call for more participation also reflects a third important variable: during the 1970s and 1980s an influential body of knowledge, along with new methodological interventions, stressed the importance of capturing the knowledge of poor people themselves – through farming systems research, agroecology and 'rapid rural appraisal' techniques. However, the cultural and political aspects of these gains in understanding received almost no attention. Social structure and political action remained essentially outside the map of development policy at the micro-level, and were given scarcely any attention in discussions of the natural environment.

The problem of rural poverty and the environment has frequently been posed in terms of available and appropriate technologies, while more reflexive, more iterative ways of working with rural people in developing countries were confined to the relatively 'marginal' concerns such as community development. Anthropologists, for example, frequently found unlikely allies in ecologists, whose negative experience of large-scale development projects echoed their own (Ewell and Poleman 1980).

It often appeared as if the larger the financial commitment of an organization to 'development' goals, the smaller was the commitment to discovering how to assist the empowerment of the poor, drawing on their knowledge, their priorities and their politics. One of the consequences, with which we grapple today, was that most environmental knowledge, like environmental management, is handed down from the First World to the Third, from large development agencies to the supposed beneficiaries of change.

The report of the World Commission for Environment and Development, *Our Common Future* (Brundtland Commission 1987) served to set the agenda for recent thinking about the environment and development. Despite its trenchant analysis, accessible

APPROACHES & CONCEPTS

style and clear exposition of the issues, the Brundtland Commission has relatively little to say about popular participation in environmental management at the local level. Other than a few short, but useful, sections on participation the Commission's report says little about local empowerment until the conclusion, in which, after a long account of the international measures required to achieve more sustainable development, a short section on popular participation is included:

progress will also be facilitated by recognition of, for example, the right of individuals to know and have access to current information on the state of the environment and natural resources, the right to be consulted and to participate in decision making on activities likely to have a significant effect on the environment, and the right to legal remedies and redress for those whose health or environment has been or may be seriously affected:

(Brundtland Commission 1987: 330)

Despite the fact that these points are not elaborated in the Report, and popular involvement in environmental management gets only the most cursory treatment, these few phrases represent a commitment of immense value, which deserve to be taken seriously by the international community and national governments. Suddenly the issue of sustainable development is linked to human rights, and these rights are specified in terms of 'their' right to know and be consulted. Participation, it is implied, is not simply a means of ensuring the efficacy of 'our' development (via more attention to factors such as the creation of employment) but a means of ensuring their sustainability through the possession of the rights without which it cannot be achieved.

Evidence for greater attention to participation, and with it poor people's rights in the environment, can be gleaned from the first draft of the *World Conservation Strategy for the 1990s*, prepared by IUCN, UNEP and the WWF (IUCN 1989). This document goes some way to redressing the lack of attention to people in the original *World Conservation Strategy* (IUCN 1980). The discussion of 'policy, planning, legislation and institutions' (pp. 137-44) pays particular attention to the obligations which a more sustainable development strategy places on governments, to consult them, to facilitate their participation in decisions, and to make information available to them. It also recognizes that 'special attention should be

SUSTAINABLE DEVELOPMENT & POPULAR PARTICIPATION

given to participation by women and indigenous peoples', which should be provided for by governments and intergovernmental agencies (p. 138).

The final section of the document gives considerable attention to local strategies for sustainable development, arguing that local communities should be given the opportunity to prepare their own sustainable development strategies 'expressing their views on the issues, defining their needs and aspirations, and formulating a plan for the development of their area to meet their social and economic needs sustainably' (p. 156). This should be undertaken, like the regional and national strategies to which it would contribute, on the basis of consensus. Achieving 'a community consensus on a future for an area' would require consultation and agreement with other, non-community interests, as well as 'a forum and process through which the community (itself) can achieve consensus on the sustainable development of the area' (p. 157).

In practice, however, in most developing countries local-level environmental management will be left to understaffed, underfunded and underesteemed enforcement agencies. The new World Conservation Strategy recognizes that legislative changes will be necessary before sustainable development strategies can be implemented with any success, but it attempts no analysis of the forces at the local, national and international level which would need to be pressed into service to ensure that legislation is enforced and local management decisions are implemented. This document, in fact, shares the assumptions of much discussion of 'participation', which is predicated on the presence of a social consensus that, in practice, rarely exists, especially in the most threatened parts of developing countries. Unless we analyse specific power structures in relation to the environment, we are in danger of being far too sanguine about the potential of negotiation and agreement. We are in danger, in fact, of drowning in our own rhetoric rather than identifying the underlying political processes whose understanding would facilitate the formulation of better environmental policy.

CONFLICTS OVER RESOURCE MANAGEMENT: FORMS OF RESISTANCE

Table 2.1 sets out some of the important variables for an analysis of conflicts over resource management at the local level. It must be emphasized that in the cases described the resources in question are

Table 2.1 Conflicts over resource management: forms of resistance

	Choices for resource utilization	Political demands	Points of tension and resistance	State/external intervention
<i>Chipko</i> (Shiva and Bandyopadhyay 1986; Guha 1989)	(1) Forest conservation (2) Commercial logging	Respect for traditional forest uses	Peaceful non-cooperation (<i>satyagraha</i>)	Indian Government intervention
<i>Brazilian rubber tappers</i> (LAB 1990; Hecht and Cockburn 1989)	(1) Sustainable forest extraction (2) Ranching	Conservation reserve	Forest clearing, federal government support	Brazil-wide solidarity groups International ecological awareness
<i>Tropical colonists (Bolivia)</i> (Redclift 1987)	(1) Sustainable farming system (2) Commercial rice (cultivation/land engrossment)	Land titles Institutional support	Disputed land ownership Migration Economic policy	Land reform Cocaine surveillance
<i>'Freelance' logging</i> (Choco, Colombia)	(1) Contracted 'logging' for TNC (2) Community stewardship		Individual livelihood strategy v INDERENA military base	INDERENA

heavily contested, and the conflicts surrounding them have drawn in both national and international interest groups. Many conflicts over local resource management in developing countries lack the heavily politicized nature of the Chipko or Brazilian rubber tappers' disputes, which have attracted media attention and become the focus for alternative development agendas. Nevertheless, these conflicts, and others such as the cases of Bolivian frontier colonists, and freelance logging in the Choco of Colombia do illustrate the inadequacy of environmental interventions which proceed on the assumption of existing consensus, and in ignorance of the social and political struggles which lie behind environmental disputes.

The conflicts between Chipko activists in India, logging companies and the Indian Government are well known and have been exhaustively discussed in the literature (Bandyopadhyay, this volume; Guha 1989; Shiva and Bandyopadhyay 1986; Kunwar 1982). Similarly, the struggle of the Brazilian rubber tappers in the Amazon to establish their rights to use the forest in a sustainable way has received extensive coverage, notably since the murder of the rubber tappers' leader, Chico Mendes. The struggles of the rubber tappers have reached the world stage, especially through the press and television, but the precise circumstances of the conflict require some explanation (Schwartzman 1989; Hecht and Cockburn 1989; Hecht 1989).

According to Schwartzman (1989) there are approximately 1.5 million people in the Brazilian Amazon who depend on the forest for their living. Of these, about 300,000 are engaged in the sustainable harvesting of wild rubber. In fact, most rubber tappers, like other sectors of the forest population, are involved in several activities other than their main cash-earning occupation: they cultivate small gardens planted with rice, beans and manioc, keep animals and hunt in the forest. They also cultivate and manage fruit trees, palms and other forest species. The rubber tappers' production system 'appears to be indefinitely sustainable. Many rainforest areas have been occupied by rubber tappers for over sixty years, and some families have been on the same holdings for forty or fifty years, yet about 98% of each holding is in natural forest' (Schwartzman 1989: 156).

The diversity of sources of income is reflected in various aspects of the rubber tappers' culture: their diet is much more varied than that of most urban groups; their average cash income, although not large, is equivalent to twice the Brazilian minimum wage; and their

awareness of the links between their livelihood and the maintenance of ecological diversity has enabled them to present their case as a convincing one of sustainable development. Any suspicion that their case has received special attention needs to be set against the fact that most other economic activities in the Amazon receive much higher subsidies, and are usually accompanied by disastrous effects.

In terms of local resource management, the interest in the rubber tappers' activities lies in two important issues. First, unlike much of the conservationist response currently being urged on governments in the South, the extractive reserves advocated by the rubber tappers are not simply another culturally alien 'management strategy' urged on unwilling, or oblivious, local people. The idea of extractive reserves is an organized initiative directly undertaken by Amazonian grassroots groups and sympathetic national organizations, designed to change the course of official regional development policy for the benefit of local people. Because the extractive reserve concept was created by a social movement, it does not depend for its effective implementation on government agencies far removed from Amazonian reality. Forest communities have put their own model before the government and multinational lending institutions as a potential strategy for consideration within a wider context of sustainable development.

Second, although locally sustainable, the rubber tappers' activities also produce a surplus which finds its way to the larger society: this is a movement that is not only locally initiated, but is also one that generates momentum outside the immediate domain of the *seringueiros* (rubber tappers).

The other two cases presented in the table are less well known. The tropical colonists referred to in the third case are largely migrants from the Bolivian Andes who migrated to the lowland province of Santa Cruz in the 1960s and 1970s, in search of land. These migrants have concentrated on growing rice for the market, but the difficulties associated with cutting down the forest, and the insecurity of the market for rice has also led some of them to explore (with official encouragement from some quarters) a more mixed farming system, comprising rice, perennial crops and small-scale animal production. The problems of managing a more sustainable system in an area where conflicts over land are compounded by contraband traffic and the cocaine trade are outlined in Redclift (1987).

The final case is illustrated by the conflict between INDERENA, a Colombian environmental agency, and the people living in the area of the Choco, a reserve situated on the tropical Pacific coast of Colombia. These people were able to receive \$10 a cubic metre for hardwoods cut from the forest reserve with chain saws loaned by a transnational company operating in Colombia, Cartón de Colombia. Each load of hardwoods had to be taken by sea, on a home-made raft, out into the Pacific and on to the port of Buenaventura. There was considerable resentment in the area at the attempts, usually futile, of the INDERENA staff to prevent the cutting of wood in this way. For the people involved in illegal cutting, the activity represented an essential livelihood strategy, and there was no shortage of men willing to take the place of those who did not survive the dangerous sea journey. It is also worth mentioning that Cartón de Colombia is a major sponsor of environmental activities in Colombia (including the conference organized by INDERENA that I was attending).

The tragedy of hardwood logging in the Choco, even on the relatively small scale practised by 'freelance' colonists, is that with sufficient official support, sustainable alternatives for the area could be implemented. It is thought that the Choco possesses 'perhaps the most diverse plant communities in the world and extremely high levels of local, as well as regional endemic species' (Budowski 1989: 274). Two sustainable strategies, in particular, have attracted attention, because they would make no serious inroads into the region's ecological diversity but would enable large numbers of people to make a decent livelihood. First, food production could be concentrated on the rich alluvial river banks where, together with agroforestry combinations, larger populations could be supported. Second, if sustainable forestry schemes were promoted, especially in the swamp and secondary forests, numerous opportunities would open up for settlers in the region. The potential for the sustainable yield of freshwater fisheries in the area is even greater (Budowski 1989: 276). Finally, it is clear that the ecological value of the Choco is so great in global terms, that international efforts to promote local research activities, and to promote research stations within the region, linked to local communities, would bring about huge advances in our knowledge, especially of better-drained forested areas.

Each of the cases referred to in the table is related, along the horizontal axis, with four dimensions of the conflict: the alternative

choices available for resource utilization in the area; the political demands of the participants in the various social movements; the points of tension and forms of resistance employed during the conflict; and the form of outside, state intervention to mediate the situation. In the cases of the Chipko movement and the rubber tappers, the conflict surrounds the defence of an existing, sustainable resource use or livelihood. In the case of the Bolivian colonists, a sustainable alternative to existing resource uses was available, but the incentives to make it attractive to people did not exist. The framework of policy measures and incentives in the Santa Cruz region of Bolivia favoured short-term calculations of profit over longer-term considerations of sustainability, although the risks carried by involvement with the market also threatened profitability for the colonist farmers. In the case of the Choco, the individual's logging activities were undertaken independently of any community structure: individual livelihood opportunities were pursued in opposition to the formal, legal framework, but 'supported' by a powerful transnational corporation.

The points of tension for each of the conflicts are different, and the interest of outsiders in the conflict vary widely, especially in terms of the commitment of the state to intercede on behalf of one group rather than another. In addition, it is impossible to view these conflicts as divorced from wider patterns of influence on the governments concerned, and in a more general sense in reshaping our awareness of the urgency of ecological issues. Although the local agents seem remote from most people, not only in the North, but also from the population of Indian or Latin American cities, their struggles provide evidence of the interdependence of both economic forces and power relations.

Before considering the need to examine these power relations in more detail, it is worth reflecting on the potential value of an approach to resource management which explicitly recognizes the importance of popular participation. It is clear from these and other similar cases that forms of political activity over the environment vary widely: we should not expect popular participation to follow a single trajectory. Second, it needs to be emphasized that in the course of conflicts over natural resources, new priorities and development opportunities are opened up and brought within the compass of popular discourse. The determination of development trajectories is not confined to the offices of experts working for the World Bank or of academic observers; they are worked out in the

heads of the subjects themselves. Third, resistance to the 'totalizing' effects of incorporation, even at the geographical periphery, into modern society can lead to the formulation of demands which have to be negotiated with governments and international interests.

A commitment to a more democratic discourse on the part of governments or the international development community, however, is only one of several possibilities whose probability depends, critically, on the role of supportive groups and interests, including NGOs, international pressure groups, and classes within the society itself. The mediation of conflicting demands and their peaceful resolution might be the outcome of resource conflicts, but it is unhelpful to assume that general agreement of this kind can be found, and that better environmental management is virtually impossible without it. The discussion of environment and development by international agencies frequently fails to identify the alternatives to consensus, or the role that the recognition of conflicting interests can play in policy formation. The more closely we examine conflicts over resource management in developing countries, the more we need to pay attention to the political and social mechanisms through which interests in the environment are channelled and expressed. It is therefore to this question, for so long ignored in discussions of resource management, that we turn in the final section.

CONTESTED RESOURCES: POWER, RESISTANCE AND SOCIAL CHANGE

At the beginning of this chapter it was suggested that conflicts over the environment could be analysed in terms of three dimensions: the economic, the political and the epistemological. It was argued that power and resistance were complementary aspects of the same strategic situation. Further, it was suggested that the way the environment was viewed in different cultures corresponded with distinct epistemological traditions of thought. We should not assume that knowledge, whether 'local' or 'scientific', could be easily separated from ways of behaving, ways of managing resources, or ways of expressing resistance towards the attempts of others to manage resources.

The current rethinking of mainstream economics, and the greater incorporation of environmental considerations which is highly influential within some development agencies, is helping to fashion

a tool for policymakers in the North, but there are limitations to the heuristic possibilities which such techniques provide. Any serious discussion of participation in resource management – and any analysis of the problem – needs to consider the full range of demands which the management of natural resources involves. We should not pursue better resource management within an apolitical, normative conceptual framework of our own making. We need to take seriously the resource politics of people in the South, especially since their own political consciousness is forged through contact with external development agencies, planning institutions and policymakers.

The articulation of demands governing the use of natural resources inevitably means the exercise of power, and resistance to it. It should come as no surprise, then, to find that environmental demands affect the content of social relationships, as well as the form. They bring new social relationships into being, and with them new power relations, many of them uncomfortably like those they have superseded. In some cases a radical break is achieved, through which existing relations are democratized or opened up, but there is no guarantee that the new relations of power that are established will be more stable. Every strategy of confrontation dreams of becoming a relationship of power, of finding a stable mechanism to replace the free play of antagonistic forces. However, there is no guarantee in history that this will happen. As we have seen, frontier colonists in Brazil and villagers in India do not demand the end of the State or law, but insist instead on respect from the government for rights which are enshrined in tradition, as well as law.

The approach I have outlined to power relations can be used in exploring the contests between human agents over environmental resources. For example, peasant movements may be contained by a chain of state agencies through which power relations are deployed and reformulated (Harvey 1989). By identifying the weaker and stronger points in this chain, movements can apply pressure to break the former with the goal of eventually breaking the latter. If we begin by identifying the most important points of tension in local society, and the conflicts they generate, we can observe how the specific application of power is resisted and transformed, how new tactics are introduced and how traditional mechanisms are abandoned.

Bearing these points in mind we can propose a set of questions which can help us establish better methodological guidelines for the

comparative analysis of micro-political change in relation to the environment. We can usefully compare the different ways in which groups seek to control and manage resources, and the concrete implications of these strategies for external agencies whose remit is to help channel and facilitate the expression of local demands. We need to look closely at the way in which different groups establish power relations through their control over resources, and the way in which these power relations change over time. In this respect, the following sets of questions can be posed:

- 1 How do legal and institutional changes limit or enable groups to engage in *particular forms of political action over the environment*? Which groups have most successfully integrated their own micro-strategies with wider strategies shared by other members of the society? As it becomes clear that different groups in the wider society acquire different notions of 'sustainability', carrying implications for their own political action, it becomes more urgent that local demands are linked to wider social resistance.
- 2 How does the recomposition of power relations affect the political priority given to more sustainable resource management? Do new strategies of political mediation, or domination, make certain policy alternatives less feasible, while opening up new ones? How do local agents view the constraints and opportunities which changing resource uses make possible? Are they able to carry their alternative vision of sustainability, their 'concrete utopia', into the organs of the state itself?
- 3 How do struggles over resources shape the paths of different social groups? Do they channel environmental demands into the institutional arena alone, or do they engage groups in confrontations which highlight basic divisions within the wider society? What are the effects upon NGOs and governmental agencies of intervention to secure long-term environmental demands? Is it the case, as the Brundtland Commission hoped, that more contact between development agencies serves to bring forward the urgency of environmental priorities within policymaking circles?

These considerations are offered as a contribution to the resolution of some of the conceptual and methodological issues which surround local resource management. By identifying the points of tension in local systems of power, and comparing their implications

APPROACHES & CONCEPTS

for different groups, often possessed of different epistemological systems, we will be able to highlight the changes through which the environment becomes the object of economic, social and political dispute. The lessons of the past and of the present are central to any strategy of resistance and liberation, but it is up to us to undertake the necessary analysis, and to place it in the hands of those disempowered by the development process.

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SUSTAINABLE DEVELOPMENT & POPULAR PARTICIPATION

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