

**GATEKEEPER SERIES No. 52**



**International  
Institute for  
Environment and  
Development**

Sustainable Agriculture  
and Rural Livelihoods  
Programme

**Trees And Trade-Offs:  
A Stakeholder Approach To  
Natural Resource  
Management**

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*This Gatekeeper Series is produced by the International Institute for Environment and Development to highlight key topics in the field of sustainable agriculture. Each paper reviews a selected issue of contemporary importance and draws preliminary conclusions of relevance to development activities. References are provided to important sources and background material.*

*The Swedish International Development Authority (SIDA) funds the series, which is aimed especially at the field staff, researchers and decision makers of such agencies.*

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# TREES AND TRADE-OFFS: A STAKEHOLDER APPROACH TO NATURAL RESOURCE MANAGEMENT

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## Introduction

A common assumption in environmental planning is that conservation of and investment in tree resources is good for society, and that what is in the common good must at heart be good for the resource-poor people who are directly involved in using these tree resources. This assumption needs to be questioned and the position of those most directly affected needs closer analysis.

Many efforts at environmental management fail because they pay inadequate attention to the various stakeholders involved and their particular interests. By stakeholders we mean all those who have a *stake* in the exploitation and management of tree resources, including forest dwellers and local farmers, logging companies, forest and other government departments, and national and international policy makers and planners. Each stakeholder group can be expected to have rational but different interests concerning the use and management of tree resources, and these differences may be fundamental. Policymakers' and planners' failure to recognise the different and potentially conflicting interests of the various stakeholders, and what each stands to lose or gain from exploitation or conservation, has frequently led to local resistance to policies and projects which therefore fail to meet their intended objectives.

Stakeholder Analysis (SA) can help us to understand better the objectives and interests of the various stakeholders managing and using the environment, the trade-offs there may be between objectives, and the costs and benefits of change and intervention at both macro and micro levels. Incorporating these ideas into environmental planning can improve prediction of outcomes, reduce the risk of unforeseen resistance, and generally facilitate informed policy-making.

The paper opens with a short review of SA - what it is, and what it involves. It then discusses SA in the specific context of tree resources, classifying stakeholders along a continuum from micro to macro levels. After considering their objectives and their valuations of tree resources, the paper analyses the trade-offs and conflicts of interest inherent in these positions. Of central concern are the trade-offs between conflicting macro and micro interests pertaining to the environment. The paper closes with a consideration of the general implications of the study for planning and policy making.

# An Overview of Stakeholder Analysis

Stakeholder Analysis can be defined as:

*An approach for understanding a system by identifying the key actors or stakeholders in the system, and assessing their respective interests in that system. Stakeholders include all those who affect, and/or are affected by, the policies, decisions, and actions of the system; they can be individuals, communities, social groups or institutions of any size, aggregation or level in society. The term thus includes policy-makers, planners and administrators in government and other organisations, as well as commercial and subsistence user groups.*

Stakeholders can also include the more nebulous categories of ‘future generations’, the ‘national interest’ and ‘wider society’.

Two key objectives of SA are:

1. to improve the *effectiveness* of policies and projects on the ground, by explicitly considering stakeholders’ interests and the challenges they may present, identifying and dealing with (before they arise) conflicts over natural resources between stakeholder groups, and considering the potential for cooperation and compromise.
2. to better address the *distributional and social* impacts of policies and projects by breaking down the analysis to assess separately the interests of, and impacts of intervention on, different stakeholders. Consideration is also given to *trade-offs* between different policy objectives and priorities (in particular between environmental, economic and equity considerations).

## Stakeholder Analysis in Natural Resource Management

The application and development of SA analysis to address environmental management issues can be justified in two main ways: (a) the limitations and weaknesses of conventional methods used in policy and project assessment and design for dealing with stakeholder interests; and (b) its particular relevance to natural resource and environmental issues, as opposed to other issues. Both of these rationales are discussed below.

### **(a) Limitations of Conventional Methodologies**

In this paper, “*conventional methods*” refer to the various forms of cost-benefit analysis, including environmental economic techniques such as the measurement of total economic value (TEV) (e.g. Pearce et al., 1989; Dixon and Sherman, 1990; Winpenny, 1991). By focusing on measuring the costs and benefits of a project/policy/protected area to society as a whole, these approaches do not adequately consider the distribution of these costs and benefits between different stakeholders. More importantly, they ignore the fact that different stakeholders are unlikely to perceive the same environmental problems, so that they will seek different solutions and use differing criteria for assessing a given intervention.

SA is intended to complement and build on these conventional economic approaches, but give greater attention to private costs and benefits as they are perceived by decision-makers at various levels. It therefore takes the diverse interests of the various stakeholders as its starting point.

The development of SA also responds to the increased use of participatory methods for data collection, analysis and project design/management. SA is related to participatory methods in many ways. In particular they share common goals of ensuring that the interests of disadvantaged and less powerful groups are better articulated and addressed. Moreover, many of the techniques for data collection developed and used in RRA/PRA can and have been usefully applied to SA. However, the development of SA is based on the contention that increasing the participation of beneficiaries or target groups alone cannot guarantee that projects will work. For projects to work, the interests of the whole range of stakeholders who can influence or be influenced by the project need to be taken into account, and compromises need to be actively sought between *public* objectives and potentially conflicting *private* stakeholder objectives. While encouraging the participation of the range of stakeholders in co-operative decision-making and management may be one way of doing this, participatory methods *per se* cannot guarantee success<sup>1</sup>.

#### **(b) The Relevance of SA for Natural Resource Management and Environmental Issues**

There are several distinctive characteristics of natural resource management that make SA particularly relevant to its analysis:

- environmental issues (e.g. management of soil and water regimes) are bounded by *natural/physical systems*, such as watersheds, and these cut across social, economic and political units. Thus for a given environmental problem, a large number of different stakeholders – different local communities, commercial interests, and a range of government departments – are likely to be involved.
- environmental problems are frequently associated with the prevalence of *externalities*, where the costs (and sometimes the benefits) are predominantly borne by others rather than the decision-maker in question. This means that natural resource management issues are characterised by competing interests and the system must be viewed holistically, with an understanding of the gains and losses of all stakeholders using, managing or affected by the resource.
- many natural resources are not owned or managed privately but are rather common or public resources. Methods of control and management, and ease of access to the resource, vary enormously between locations but typically there are multiple users, acting competitively, as well as numerous other stakeholders.

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1. Participatory approaches in natural resource management have made strides in developing procedures for community or joint involvement but have generally given less emphasis to dealing with inherent structural problems and the factors giving rise to conflicts of interest.

- appropriation of natural resources affects future availability or production. Thus temporal trade-offs occur (giving rise to questions such as at what rate should the resource be used, and what investment should be made in management and conservation?), as well as trade-offs between more or less extractive uses of the resource.
- natural resources tend to have multiple uses which are often not compatible. For example, forests and tree resources may have both productive and environmental benefits which are used by different sets of people; the timber of certain species may be required by a logging company, non-timber products by local people, the land on which the forest is found may be coveted by settlers, and environmental protection may occur both on and off-site.

## Levels and Purpose of Stakeholder Analysis

SA can be a useful tool for policy makers at several levels.

*National policy analysis.* For example, when a national government wishes to establish environmental policy and legislation across sectors, SA could be used to draw out the different sectoral interests in relation to natural resources and environmental management. This would provide an essential basis from which to build a policy that is both feasible and acceptable across government sectors.

*Regional or local planning.* For example, SA should be particularly useful in analysing and helping provide management/policy options in situations where the objectives and methods of national and regional governments interact and (appear to) conflict with the interests of local stakeholders.

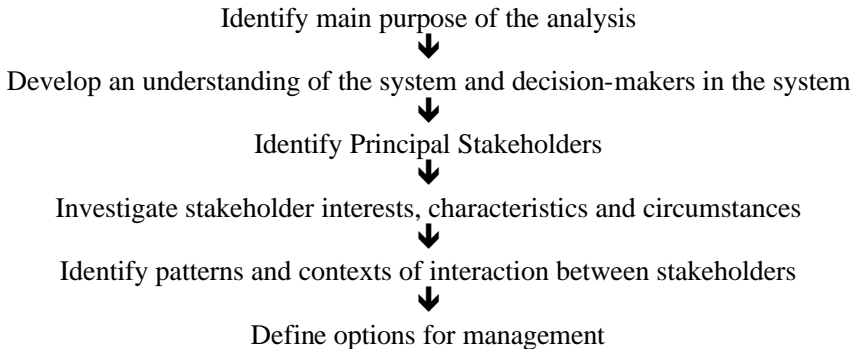
*Project analysis.* For example, SA would be applicable in the design or appraisal of local projects where the activities of the project are likely to affect several distinct local stakeholder groups with significant differences in interest (in relation to the project). These groups may be, for example, different villages, different ethnic communities, livestock herders vis-à-vis sedentary agriculturists, and possibly men and women.

SA can also be used for different purposes, such as:

- *ex ante* appraisal of projects and policies
- *ex post* evaluation of projects and policies
- general research on natural resource management and change
- providing analytical support to an on-going process of conflict resolution and co-operative management of a resource, such as village common property management.

## How Does One Go About SA?

The following is a flexible set of steps and guidelines for conducting SA that can be adapted according to each situation:



The initial stage of a stakeholder analysis should be to define answers to the questions:

- what is the *problem* that needs to be addressed?
- what are the *objectives* and intended outputs of the analysis?
- who are the relevant *decision-makers*? and
- how will the outputs be targeted?

These will then form the basis for building an analytical framework. For example, in the case of an *ex ante* appraisal of a project, there might be concern that the project will have adverse distributional impacts on some groups of people and will meet with local opposition. The objectives and outputs would then be to provide alternative project designs or management strategies that have a more acceptable impact. In this case, the project managers are likely to be the main decision-makers and so their systematic contribution to the analytical process should be ensured.

Once the purpose has been established, a holistic understanding is needed of how the overall system operates, of who are the main decision-makers in the system, and of what drives the decision-making process.

The process of identifying relevant stakeholders and deciding which stakeholders should be included or omitted in the full analysis needs to be considered carefully at an early stage because the selection critically influences the analysis. It is useful to apply more than one criterion or procedure for the initial identification of stakeholders in order to ensure that all relevant types are considered. After an initial set of stakeholders has been identified, they need to be verified. This might be achieved by asking each of the stakeholders whom they consider to be the other main stakeholders, and what the relations between different stakeholders are. This process will help not only to test the initial list of stakeholders, but also to gain an idea of their interests in the issue in question.

After the initial process of identifying stakeholders, the list of stakeholders needs to be streamlined so that only those who are essential to the analysis in question are included. Of course, the balance is a delicate one that will depend on the purpose of the particular enquiry.

It was stated earlier that SA can be used both to improve the effectiveness of policies and projects and also to address their social and distributional impacts. The two objectives demand rather different selection criteria for stakeholders. If the main interest is in overall environmental or economic effectiveness (will the project work?), the primary consideration for selecting stakeholders will be the inclusion of those groups whose interests, resources, and position of power/authority imply that they are likely to substantially affect the way in which the project or policy will operate or fail to operate in practice. If, however, there is equal or greater concern for the equitable distribution of benefits and costs, the selection criteria will be based on considering all those groups who in some way will be affected by implementation.

Having identified the set of stakeholders to be investigated, the strategies for data collection and analysis for the various stakeholders need to be determined. Effective strategies are likely to vary considerably between different types of stakeholders. We have found informal, semi-structured interviews (using simple checklists of key topics), both with individuals representing one stakeholder group, or with a number of representatives from different stakeholder groups to be particularly useful. Oral case histories have also helped understand changes over time and the dynamics of the system. Quantitative as well as qualitative techniques of data collection and analysis can be fruitful, for example using cash incomes from selling forest products as a partial indicator of dependence on a forest resource, or using preference ranking for determining the perceived value to stakeholders of different types of trees.

In contrast, we feel that methods for eliciting the interests of macro-level stakeholders are less advanced. Such methods must be developed, in particular for bringing out the interests and agendas of government officials and large commercial organisations who have a stake in natural resource management.










An explicit investigation of relationships and interactions between stakeholders may reveal much about the nature of the conflicts and co-operative action related to natural resources, and the reasons and contexts behind them. One useful way of gaining an understanding of conflicts is by discussing a concrete case of past conflict, what gave rise to it, and if and how it was resolved. Group meetings between representatives of different stakeholder groups are likely to be helpful, although the success in promoting informative and peaceful discussions will depend on a number of factors, including the existence of intermediaries who are respected and deemed impartial by all the parties involved.

The literature provides little insight on co-operation or conflict where there is a large number of stakeholders with very different interests in the resource: yet SA is aimed in particular at dealing with such complex situations. With this in mind, we have learnt from our investigations that *matrices* can be a useful analytical tool for identifying and assessing the significance of conflicts of interest and co-operation between different stakeholder



groups. Figure 1 shows how a matrix was used to analyse conflicts between different stakeholders in forest management in Northern Thailand (Chan, 1994).

**Figure 1. Matrix Showing Occurrence and Extent of Conflicts Between Stakeholders in Tree Resources in Northern Thailand**

Government Departments					
NGOs					
Wood-based Industry					
Ex-situ Land Owners					
Local People					
	Government Departments	NGOs	Wood-based Industry	Ex-situ Land Owners	Local People

*Note: the symbol • represents the existence of conflict, the size of the symbol indicating its relative extent or significance.*

As well as identifying patterns of interaction, SA is also interested in the reasons for conflicts and co-operation. Factors may include:

- the nature of power and authority relationships between stakeholder groups
- socio-cultural relationships between groups
- historical contexts
- legal institutions

Ultimately SA, depending on the context, will usually have to provide answers to a number of questions. Which stakeholders' interests are going to be prioritised? How are the interests of all the most influential or powerful stakeholders going to be reasonably met in order to ensure their co-operation? What is the common ground on which compromise

between pertinent stakeholders can be based? How are conflicts between stakeholders going to be resolved or controlled? This process of managing stakeholder interests and conflicts has yet to evolve, and the development of appropriate procedures and tools should be a priority area for future research.

## **Tree Resources and Stakeholder Analysis**

In this section we apply this framework to the case of tree resources. For our purposes the term ‘tree resources’ includes farmland trees, woodlands and forests and the land on which trees grow. Trees are key components of both natural and man-made landscapes and provide a wide range of benefits in terms of the products and services they provide. These benefits include a huge range of wood and non-wood products, and numerous on- and off-site environmental ‘services’ such as the maintenance of soil fertility, climatic influences, carbon dioxide absorption, watershed protection and wildlife habitats. The development, protection and continued economic exploitation of tree resources are fraught with difficulties because of the range of interests involved. As a result tree resources represent a good case study for closer examination of the interlocking and often conflicting interests which society has in environmental resources.

### **Stakeholders in Tree Resources and Their Principal Interests**

The idea of a macro to micro continuum is useful for classifying stakeholders at different levels and identifying their resource interests (Table 1). Micro-level stakeholders are those local and small-scale groups and institutions who are the immediate users and *de facto* managers of tree resources.

Macro-level stakeholders are those groups such as government departments and macro planners concerned with regional or national natural resource and development issues. In principle, the ultimate macro-stakeholder is global society, including future generations, though for most purposes the limit is set by national sovereignty represented by governments and politicians. In practice all stakeholders lie somewhere along the macro to micro continuum according to the scope of their interests in the resource in question.

Each broad stakeholder group can be further subdivided. For example a community can be broken down into wealth and gender divisions and perhaps to the level of households and individuals. However, for illustrative purposes this paper is only concerned with the principal stakeholders with significantly different sets of interest. An example of principal stakeholders is illustrated in Box 1.

**Table 1. A Typology of Tree Resource Stakeholders on a Macro to Micro Continuum**

<i>Continuum Level</i>	<i>Examples of stakeholders</i>	<i>Environmental Interest</i>
Global & international wider society	International agencies Foreign governments Environmental lobbies Future generations	Biodiversity conservation Climatic regulation
National	National governments Macro planners Urban pressure groups NGOS	Timber extraction Tourism development Resource and catchment protection
Regional	Forest departments Regional authorities Downstream communities	Forest productivity Water supply protection Soil depletion
Local off-site	Downstream communities Logging companies and sawmills Local officials	Protected water supply Access to timber supply Conflict avoidance
Local on-site	Forest dwellers Forest-fringe farmers Livestock keepers Cottage industry	Land for cultivation Timber & non-timber forest products Cultural sites

## Interactions Among Stakeholder Interests: Conflicts and Trade-Offs

Trade-offs and conflicts are interlinked concepts so the distinction between them can become blurred. In this paper the following definitions are used.

*Conflicts* are situations of competition and/or disagreement between two or more stakeholder groups.

A *trade-off* is the process of *balancing conflicting objectives*. A trade-off therefore arises when a stakeholder or stakeholder group has several objectives towards tree resources that cannot simultaneously be achieved. Trade-offs thus imply a sacrifice or opportunity cost in terms of benefits foregone.

Conflicts and trade-offs are interlinked and often occur together: the likelihood and intensity of both tend to increase the resource becomes scarcer. However, there is an important conceptual distinction in that, whereas *conflicts are situations between two or more stakeholder groups*, *trade-offs relate to a single decision-maker or decision-making group*.

### **Box 1. Principal Stakeholders in Forest Resources in the Cameroon**

Cameroon contains the largest remaining expanses of tropical rainforest in Africa. Although much of the forest is populated and subject to shifting cultivation, vast areas are only sparsely inhabited and utilised for hunting and gathering. As well as providing the livelihood base of rural peoples, Cameroon's forests are of great significance economically, to the concessionaires and timber processors, to the nation itself and to the international timber trade. They also contain a number of unique ecosystems of importance for wildlife and genetic conservation.

- **The state** is a broad stakeholder in that timber resources are a principal source of export revenue. In addition, effective forest conservation policies attract international support and protect valuable biological resources including hitherto unexploited forest products.
- Within the state apparatus, the **Ministry of Environment and Forests, the Department of Forests** and the **State Plantation Development Company** all have direct interests in managing and using forest resources.
- **Forest and forest margin dwellers** are another major set of stakeholders with a direct interest in tree resources. The majority of people in the southern and eastern parts of the country depend on the forest for their livelihoods. Farming peoples use the forest for extracting a wide variety of forest products and for shifting agriculture. **Hunter gatherers**, such as the Baka in eastern Cameroon, subsist almost entirely from the plant and animal resources the forest provides.
- **Commercial logging companies**, both national and foreign, have a major interest in forest exploitation through logging concessions. French companies are major players, and lately, Far-Eastern companies are looking towards Cameroon as a source of timber.
- Internationally, the **parent companies of logging concerns**, and **foreign governments** are less directly stakeholders in Cameroon's forests. Also a number of official development agencies are stakeholders in that they are concerned to promote 'good management' of forest resources for multiple goals of conservation, timber production and environmental protection.
- A wide variety of **secondary industries**, including sawmills, timber processors and haulage companies, both national and foreign, have interests in forest resources.
- Indirectly, **the state apparatus as a whole, its employees**, as well as **politicians, professional and business élites**, all benefit from the revenue earning capacity of the nation's forests. Each has an interest in maintaining the forests as forests rather than seeing their conversion to agriculture.
- Various **international conservation groups** such as the World Wide Fund for Nature (WWF) and Birdlife International support projects to protect and manage particular areas of rainforest.
- A range of **research bodies** engaged in agroforestry, silvicultural, biological and environmental research have established interests in using particular areas of forest land.

Table 2 classifies conflicts and trade-offs into four types according to the level at which the stakeholders and their objectives are placed on the macro-micro continuum.

**Table 2. A classification of trade-offs and Conflicts**

Level	Trade-Off*	Conflicts of interest
<b>Macro- Macro</b>	Between policy objectives (e.g. Environment vs economic growth vs. equity)	Between national institutions or line departments (e.g. A forestry vs agriculture department)
<b>Macro – Micro</b>	Between national and local interest (e.g. Ban on forest clearance affects cassava production)	Between national institutions and local people (e.g. A forestry department vs. farmers)
<b>Micro – Macro</b>	Between internalities and externalities (e.g. A farmer uses pesticides which affects biodiversity)	Between local people and ‘society’ at large, or farmers and environmental lobby groups
<b>Micro – Micro</b>	On-farm resource allocation (e.g. Short-term vs. long term, or forest products vs cash crops)	Between different sets of local people (e.g. Farmers vs pastoralists over use of forest land)

\* In both the macro-macro and macro-micro cases the decision-maker making the trade-off could be a government or national planner. In the micro-macro and micro-micro cases the decision-maker could be a resource-poor farmer.

## Conflicts

As indicated in Table 2, conflict can occur at both micro and macro levels, and between levels. Local level conflicts may arise between different on-site stakeholders, such as settled farmers and migrant livestock herders, or between on-site and off-site stakeholders. Micro or local level conflicts frequently originate from breakdowns in systems of common property management, under pressure from population growth, economic activity and sometimes incursion by outside interests.

Macro-macro conflicts may occur between different stakeholders at a national level and between stakeholders at national and international levels. In the first case differences may arise when a Ministry of Environment disagrees with a Ministry of Trade and Industry over the scale and extent of permitted forest exploitation. In the second case, international and national concerns may be in conflict when the interests of developed nations in preserving biodiversity, climatic regulation and global forest resources differ from the interests of developing countries who have to bear the costs of conservation.

Micro-macro conflicts arise where the actions of local stakeholders conflict with those of macro-level stakeholders. This may occur, for example, when local wholesale timber logging or colonisation of forest occurs, activities which conflict with the interests of national or global environmental lobbies seeking to conserve forest. Conversely, macro-

micro conflicts arise when stakeholders responsible for forest or wider environmental management at national or regional levels, or indeed donor and development agencies, have an adverse impact on the livelihoods of micro-level stakeholders (Box 2). Governments may opt for what is seen as the wider or national level interest by outlawing an activity harmful to conservation, such as shifting cultivation in forests. However, though stated to be in the interest of *society* it may be merely a reflection of the interests of powerful stakeholders. All too often evidence regarding the environmental harm of an activity is not measured or costed properly and sanctions result in local people losing their livelihoods.

### **Box 2. Land Use Change in Cameroon**

A form of shifting agriculture incorporating forest fallows has long been practised in the tropical forests of the Cameroon, and local authorities are concerned about its effect on deforestation. In the late 1980s a project was instigated with overseas aid to establish timber plantations on land that had been cut and burnt, cultivated for up to two years, and left to recuperate.

There were, however, markedly different interpretations of the situation. Project authorities held that shifting agricultural practices were degrading and depleting the forest, and it was highly desirable to establish plantations of valuable timber species on what was seen as abandoned land. Local people, however, suggested that their agricultural system was sustainable and did not cause deforestation. What degradation there was, they said, was caused by the project. The project was replacing forest fallows left to regenerate naturally by a few introduced species of no value to them. They said the new habitat was much less biotically diverse than the secondary forest it replaced and did not provide the non-timber forest products and game habitats long used by them. They also argued that recently fallowed secondary forest was more valuable than the dense forest it replaced because less labour was required to convert it to agricultural land. Indeed, they deliberately selected shorter fallows for growing certain crops, trading-off the fertility losses against the higher economic returns to labour input (labour was the major limiting factor).

A rider should be added. In this locality forests were not under great pressure and, at least for the time being, the shifting agricultural system was sustainable. In other circumstances however, increasing population may impose severe pressure on resources, and forests will degrade and diminish. Whether or not it is acceptable to convert forests to agricultural land can only be judged from local circumstances.

## **Trade-offs**

Trade-offs often have to be made by stakeholders between different objectives. Trade-offs at the micro level often reflect questions of local resource allocation between different activities.

For instance, a farmer makes trade-offs between different cropping patterns and planting times, according to rainfall, labour availability and other factors. Village heads or councils make trade-offs between the net benefits of different land use options in deciding whether

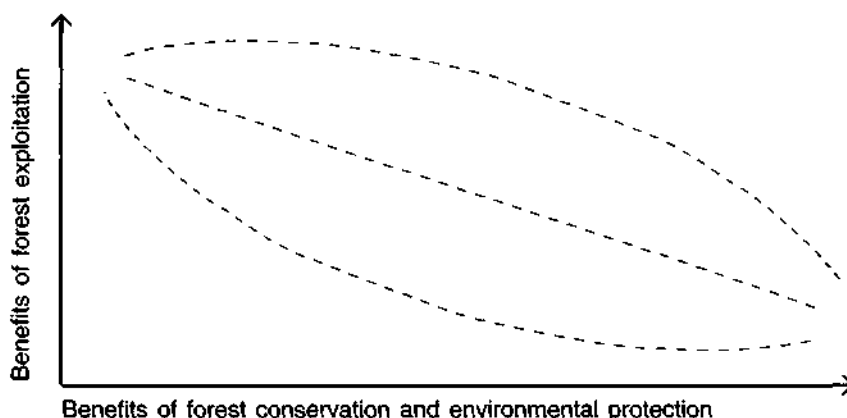
or not to allocate portions of common land for cultivation or to maintain them as grazing or forest land (Box 3).

### Box 3. Trade-offs and Hidden Costs

The fact that trade-offs are made implies a cost which is often not recognised and is typically difficult to measure. For example, the deodar cedars and temperate forests of Himachal Pradesh in the Indian Himalayas are increasingly being eaten into by the apple and other fruit orchards of local farmers. In economic terms the replacement of forests by orchards is probably fully justified but the full long-term and wider implications of this process are difficult to fathom. Implicit in such trade-offs is the idea of time preference; to opt for activities which bring immediate benefits or to invest in activities which will ensure a continued flow of income or some possible future benefit. Actual practice often reflects security of tenure. Where local people have no rights over tree resources they are likely to have no interest in preserving them. Similarly loggers may have little incentive to exploit timber resources in a sustainable way where short concessions prevail.

Of central interest to this paper are the trade-offs made between conflicting macro objectives when policy and planning decisions are made about the environment. Policymaking requires trade-offs between economics and equity as well as environmental objectives. The hypothetical curves in Figure 2 illustrate the trade-offs at macro-level between the benefits of forest exploitation and forest conservation. The three lines show that the shape of the trade-off curve is not clear or fixed, but can take various forms. Both conservation and exploitation have associated costs and benefits and compromises have to be made between them. Theoretically these compromises are arrived at according to considered opinion about the balance required, though in practice they often depend on the political influence or bargaining power of the various stakeholders involved.

**Figure 2. Hypothetical Trade-offs Between Forest Clearance and Conservation**



Rapid economic growth and reduced debt liabilities are commonly pre-eminent objectives of policy making, and the fact that gains and losses in natural capital do not generally figure in national accounts means that in developing countries environmental objectives and long term sustainability are often downplayed. Even if decisions are made on objective rather than political criteria, decision-making is performed in situations of ignorance - ignorance perhaps of the issue in question as well as the related biological and socio-economic costs and impacts.

## A Special Case: Future Generations

Advocates of sustainable development argue that future generations hold a stake in the present day management of resources, although they cannot represent their interests in the same way as present generation stakeholders. This does not mean they are unrepresented as people may well incorporate their unborn children into their planning horizons. This is seen when they defend their customary resource rights, for instance over forest land under fallow, or when they plant slow growing trees which the present generation is not likely to bring into use. The difficulty is that an individual or group of stakeholders will often have personal time horizons that conflict with their concerns for future generations. Again policy and security of tenure and livelihood play an important role in determining how stakeholders balance their decisions.

## Conclusions: Potentials and Limitations of Stakeholder Analysis

The desire to safeguard the environment or forests is something of a Northern concern with which policymakers in developing countries may not fully concur. Practical policy must be designed and implemented with an explicit awareness of how it will affect and be perceived by institutional and commercial stakeholders, and by different sets of local people. The approach discussed here is pragmatic and problem-centred, drawing on a range of concepts and methods from management science, PRA and RRA, common property resource theory, environmental economics and political economy. A stakeholder approach can help decision-makers make practical trade-offs between these different interests with a clearer view of their likely consequences. Identifying and understanding conflicts of interest can thus be a positive force in planning, leading to more acceptable trade-offs and better understanding of mitigatory or compensatory measures that may be required.

However, like all approaches and methods of analysis, SA undoubtedly has certain limitations and weaknesses that should be discussed.

One potential weakness is that it tends to treat different stakeholder groups as distinct entities. In reality, social groupings are *not* distinct. In contexts where SA is primarily being used as an analytical tool by an *outsider*, the definition of distinct stakeholder groups is probably less of a problem and more of an analytical advantage. However, in cases where SA is being applied to empower groups of people, or as a tool supporting a practical



and participatory effort at conflict resolution between groups, overlaps between defined groupings may prove more problematic. A greater flexibility and awareness of overlaps would be required in these circumstances.

Given existing biases in access to information, the act of making more information available about the interests and decision-making criteria of less powerful groups may play into the hands of more powerful groups. The latter may use this knowledge to manipulate the former in order to further their own interests. This kind of problem may be particularly relevant SA is being used in a situation where information is made available to all stakeholder groups as well as to the analysts themselves.

These weaknesses can be successfully addressed through appropriate use and, if necessary, modification of the principles and procedures. These are limitations of SA at its present initial stage of development but are not necessarily inherent flaws in the approach itself. However, much work still needs to be done in refining methods for application in differing contexts, and in developing procedures for specific stages of the analysis, in particular for conflict resolution and management.

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