

Mediating Forest Transitions: ‘Grand Design’ or ‘Muddling Through’

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Abstract

Present biodiversity conservation programmes in the remaining extensive forest blocks of the humid tropics are failing to achieve outcomes that will be viable in the medium to long term. Too much emphasis is given to what we term ‘grand design’—ambitious and idealistic plans for conservation. Such plans im-

cities changing needs for development with changing opportunities for biodiversity. This approach has been defined by Lindblom (1959) as 'muddling through', i.e., the long term engagement in the messy processes of influencing decisions and activities on the ground.

BRIEF HISTORY

There have been many earlier global initiatives to conserve or sustainably manage tropical forests. These included the Tropical Forest Action Programme, pilot payments for environmental services schemes, the Global Environment Facility, debt for nature swaps and 'conservation concessions'. All were hailed as major advances, but far too much emphasis was placed on the biophysical world and none have stemmed the tide of forest destruction (UNEP 2002; Sengupta & Maginnis 2005)

The criticisms of conservation initiatives contained in the European Commission and the Ministry of Forestry (2006) study of Indonesia are reflected in more wide ranging studies such as McShane and Wells (2004), Sayer and Campbell (2004)

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long term. Expecting that the future populations of countries such as Cameroon and Cambodia will tolerate maintaining a quarter of their land area under strict protection seems optimistic. PAs remain of vital importance but it is becoming clear that we have to explore additional conservation options. The fate of much biodiversity will depend upon landscape mosaics where only small areas are totally protected (e.g. Zuidema *et al.* 1997; Vandermeer & Perfecto 2007). Many of these landscapes will be under decentralised management regimes driven by local civil society (Glück *et al.* 2005).

Integrated conservation and development projects (ICDPs), and ecosystem approaches are consistent in their overall aspirations with the 'adapting mosaic' scenario. Aid agencies and international non-governmental organisations (NGOs) have invested heavily in ICDPs for some 40 years (Garnett *et al.* 2007). Unfortunately, it has been difficult to demonstrate that these projects have delivered either conservation or development benefits (McShane & Wells 2004). The fundamental problem with the ICDP concept is that it ignored the reality that the quickest route out of poverty will almost always come from rapid growth of the economy coupled with democracy and equitable distribution of benefits. The growth with equity solution to poverty was central to the so-called Washington Consensus (Williamson 2000) and runs strongly counter to the local eco-development paradigm of ICDPs. ICDPs have sought to maintain or restore an idyllic rural landscape where people live in harmony with nature. They have ignored the reality that for most people greater material wealth is more important than harmony with nature.

Sustainable use can be a key component of an 'adapting mosaic'. Sustainably managed forests can provide a matrix within which PAs can be located. The economic and ecological viability of sustainable forest management for timber has been contested (Bourgeois 2008), but paying for the environmental benefits of these forests would make them viable and must provide a better economic option than pure protection. Appropriate mosaics of managed forests, PAs and more intensively used agriculture come close to the 'adapting mosaic' scenario and to reconciling the trade-offs between meeting conservation goals and improving local livelihoods. The challenge for conservation is to manage the mosaic as a system and not to allow each cell of the mosaic to be managed to meet purely sectoral ends (Vandermeer & Perfecto 2007).

We therefore see encouraging signs in the landscape approaches to reconciling conservation and development that are now being pioneered by a number of conservation and forestry agencies. However, because 'landscape' approaches remain rooted in a world of donors and projects they still carry with them many of the problems of ICDPs. They suffer from the difficulties of working across sectoral boundaries, of being driven by donor agendas and time frames, and of requiring human and in-

stitutional competencies that rarely exist in developing tropical countries.

LANDSCAPE APPROACHES TO FOREST CONSERVATION

There are additional reasons to believe that managing biodiversity in mosaic landscapes, which we align with the 'adaptive mosaic' scenario, is appropriate for dealing with the challenges of large scale forest transformation. First, ecosystems are constantly changing, and the rate of change is increasing under the impacts of global market integration and climate change. It may be unwise to lock into that set of PAs that appear optimal for achieving biodiversity goals today when the 'goal posts' will move in the future. Human populations continue to grow and they are consuming more. The increased consumption of biofuels and agro-industrial crops and the expansion of mineral extraction will be the prime determinants of the extent and location of remaining forests. We cannot aspire to follow a rigid pre-defined goal for conservation. Ecosystems and landscapes are going to require continuous adaptation and management to respond to changing needs of human societies and changes in the biophysical conditions under which they exist. Conservation can no longer use the preservation of the *status quo ante* as its underlying conceptual paradigm.

Increasing limitations are becoming apparent in the

However optimistic one is about REDD, it seems unlikely that it will provide enough funding to meet the opportunity costs of land for the two billion rural people who now live in poverty and the one billion of them who live in forest areas. For example, simulation models developed for Indonesian Borneo suggest that the income flows from agro-industrial development would be higher than revenues from REDD (Sandker *et al.* 2007). Even topped-up by REDD payments, the flows of benefits from natural forests are likely to be inadequate to compete with intensive soy bean, oil palm, beef or wood fiber production. Using REDD to improve the livelihoods of the forest dependent or forest dwelling poor would require financial transfers from rich countries that would be greater than anything conceivable under REDD schemes at present world carbon prices. The best route out of poverty for most poor forest dwellers will be either to migrate or to replace the forests with more productive crops.

REDD will have to address the fundamental obstacles of weak governance, poorly defined property rights and inability to enforce rules that have been the root causes of failure of earlier conservation initiatives. The challenge is to learn from past attempts to mediate these transformations and apply this learning to our next efforts. This will be the key to investing funds from REDD or other new funding mechanisms more effectively.

WHAT IS NEEDED TO MAKE LANDSCAPE APPROACHES WORK?

Although the conceptual underpinnings of landscape approaches are well developed (Farina 2006), the reality on the ground is that these approaches are often just spatial planning under a new name. All too often conservation landscapes are the product of 'grand design'. They are lines drawn on maps to include the agricultural land and managed forests around PAs. This form of landscape approach consists essentially of attempts by conservationists to impose their idealised wishes for the landscape onto others who might have quite different ambitions (Scott 1998). At worst the landscape approach has just been an attempt to join up PAs with wildlife corridors (Simberloff *et al.* 1992). We contend that landscapes must be understood as integrative constructs that include human, institutional, esthetic and economic attributes (Farina 2006). Landscape approaches must

ment at the landscape level based upon exploration of plausible scenarios by stakeholders. Hypotheses about future needs and opportunities can be articulated and tested over time by stakeholders working with scientists. Rather than attempting to resist development it is important to explore the full ramifications of all development scenarios and identify those that are best, or least bad, for biodiversity. Simple simulation models, visualisation and other less formal scenario development tools can greatly assist this process (Sayer & Campbell 2004; Soares-Filho *et al.* 2006). Building a consensus around a plausible set of compromises may be more effective than taking stands against developments as threats. Achieving conservation in large diverse landscapes will usually be a long term incremental process. Success indicators must measure the commitment of constituents and competence of institutions rather than the extent of areas under legal protection or the size of animal populations.

The MEA illustrates the use of such scenario-based approaches and offers a high level framework for the development of more detailed regional scenarios. Scenario development requires multi-disciplinary teams who can articulate hypotheses upon which learning can be based. Models can provide for feedback loops and a learning framework. A broad range of stakeholders must be involved in this shared, social learning. Conservation will be only achieved when entire societies change their behaviour. The lack of feedback and learning has been a weakness of previous attempts at large scale integrated approaches to conservation and development (Redford & Taber 2000).

Conservation scientists should help elaborate the scenarios and identify the environmental, social and economic implications of each. They can highlight the limitations of scientific knowledge and identify areas of uncertainty. Scientists can put into place systems for measuring progress towards desirable human and ecological landscapes. Action research on real landscapes will provide the basis for adaptive management. Processes need to be locally driven but it is also essential that strong advocates of the public goods values of biodiversity should be engaged. Conservation biologists will have to ride the thin line between analysis and advocacy (Chan 2008).

‘Muddling Through’ Rather than ‘Conservation by Design’

Stakeholders will take strong positions on scenarios. Negotiations should then proceed, mediated through an equitable process. However,

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formation System screens. Social movements are needed to create 'adapting mosaics' that are able to continually evolve to meet the needs and opportunities of people and nature in a changing world.

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