Conservation on the frontier

Transboundary conservation will form an important part of efforts to conserve tropical forests in the 21st century

by Mohamed Imam Bakarr

Center for Applied Biodiversity Science

Conservation International 1919 M Street, N.W. Suite 600 Washington DC 20036, USA



Border living: a family paddles across a river in the Tambopata-Madidi region, site of an ITTO-funded transboundary conservation project (PD 17/00 Rev. 2 (F)) being implemented by INRENA (Peru) and SERNAP (Bolivia) in association with Conservation International and with the participation of local organisations. *Photo:* © *Judy Gire, Conservation International*

B Y the close of the 20th century, the nations of the world had made a tremendous effort towards conserving biodiversity; tens of thousands of protected areas had been established, of which nearly 13 000 met relevant criteria for inclusion in the 1997 United Nations List of Protected Areas (IUCN 1998). Despite this remarkable progress, the world's tropical forests—and their rich biodiversity—remain among the least protected of all major terrestrial ecosystems. As tropical nations strive to sustain economic and social benefits from forests, the need for creating and strengthening the management of protected areas will become a priority if threats to biodiversity and ecological processes are to be eliminated in the 21st century.

Scaling up biodiversity conservation across increasingly larger landscapes is an important conservation strategy for maintaining viable populations of species and sustaining ecosystem processes

> The current global extent and distribution of tropical forests reflect two contrasting realities. The first involves regions where the original extent of forest cover has been severely fragmented, with only a few significant blocks left, such as in the Guinean forests of West Africa and the Atlantic forests of Brazil. The second includes regions that still have large areas of relatively intact forest, such as the Congo Basin forests of Central Africa and the Amazonian forests of South America. While regions with severely fragmented forests are in urgent need of protected areas to avoid impending extinctions, those with relatively extensive forests offer opportunities to minimise habitat fragmentation and maintain intact faunal assemblages. In both cases, the establishment of transboundary

conservation areas (TBCAS) can serve as an important tool for securing and maintaining blocks of contiguous forests in cross-border landscapes.

Definition and typology of TBCAs

Although TBCAs are often equated with transboundary natural resource management areas, no single or consistent definition has been provided beyond the emphasis on conservation and management of natural resources across borders. TBCAs are important for biodiversity conservation because ecosystems and species do not recognise political borders, which are defined for historical and geo-political reasons without reference to ecological functions or processes (Griffin et al. 1999; van der Linde et al. 2001). As noted by Sandwith et al. (2001), the creation of transboundary protected areas (TBPAs) and 'peace parks' can play a crucial role in biodiversity conservation by strengthening the management of protected areas that adjoin across international borders. But TBCAs include more than just protected areas, because transboundary conservation initiatives may be undertaken in areas with no adjoining protected areas, or where the nearest protected areas are located far from the international borders themselves (Griffin et al. 1999). The table (page 4) presents a typology and description of TBCAs and their potential implications for protecting tropical forests.

Beyond protected areas

Despite the many achievements in protected area creation, threats to global biodiversity remain a major challenge, as attested to by the increase in the number of threatened species that were added to the IUCN Red List at the turn of the century. For example, the number of threatened animals worldwide increased from 5205 in 1996 to 5435 in 2000 (Hilton-Taylor 2000). This suggests that simply focusing on the existing global network of protected areas will not be adequate to advance the goal of biodiversity conservation in the 21st century. Even more important is the likelihood that many threatened species are poorly represented in the existing global system of protected areas. Moreover, the growing evidence of global-scale change (biophysical, demographical and institutional) combined with increasing habitat fragmentation suggests that conservation goals will not be served simply by establishing and managing protected areas in isolation.

... to fully accommodate the range of biodiversity targets and ecological processes supported by tropical forest ecosystems, as well as to safeguard against the potential vagaries of global-scale change, conservation priorities must be scaled up across larger landscapes.

> In order to fully accommodate the range of biodiversity targets and ecological processes supported by tropical forest ecosystems, as well as to safeguard against the potential vagaries of global-scale change, conservation priorities must be scaled up across larger landscapes. Landscape-level conservation approaches such as the ecosystem approach, bioregional planning, biodiversity corridors and even biosphere reserves have been proposed as innovative ways of integrating forest protection into broader land-use needs.

Although none of these approaches is entirely new (eg Miller 1996), the opportunities they present are crucial to the establishment of TBCAs that conserve biodiversity and safeguard ecosystem processes in tropical forests.

Scaling up biodiversity conservation across increasingly larger landscapes is an important conservation strategy for maintaining viable populations of species and sustaining ecosystem processes. Where such landscapes fall across geographical boundaries, an entirely new conservation challenge is imposed by the need to manage across two or more jurisdictions. The effectiveness of TBCAS depends on how well the social, political, economic and legal implications of management across borders are addressed.

Elements in TBCA creation and management

TBCAs should be driven by the need to build comprehensive protected area systems that represent the full range of known and documented biodiversity in tropical forests. This means having clearly defined conservation targets that are linked to species, habitat corridors or ecological processes associated with an ecosystem. Because transboundary conservation is not an easy undertaking, it is essential that the value-added be fully articulated and rationalised before investing in the establishment of a TBCA. This may involve examining data on species' distributions or movement patterns across borders, as well as on ecosystem values and processes that generate economic benefits (see Chai

Transboundary types

Typology of TBCAs and implications for protecting tropical forests

Type of TBCA	Implications for protecting tropical forests
TBCAs with no existing protected areas	This type of TBCA focuses primarily on the management of natural resources (eg wildlife movement, safeguarding watersheds) to mitigate the impacts of anthropogenic threats across borders. Biodiversity benefits can be harnessed by identifying important forest blocks for protection in the cross-border landscape to maximise representation and coverage of biodiversity targets (eg threatened species and habitats). This will require enlisting the participation of relevant stakeholders in decision-making concerning establishment of the protected areas and overall design of the TBCA.
TBCAs with protected areas on only one side of the border	The benefits of this type of TBCA will depend on the nature of land-use on the non-protected side of the cross- border landscape. Priorities for management should therefore be based on whether the adjoining land is amenable to protection (eg logging concession) or already converted to another land-use (eg degraded forest and cultivated land). Where the land-use is amenable to protection, prospects for expanding the adjoining protected area across the border should be explored. Where the land-use is likely to pose increased threats, an integrated approach to management of the landscape should be pursued.
TBCAs with a cluster of protected areas and intervening land managed as a unit	This type of TBCA is consistent with most landscape approaches to conservation that combine the primary goal of habitat protection with natural resource management and production practices in the matrix. Protection of tropical forests can be promoted by strengthening management of existing protected areas to secure biodiversity targets and leverage benefits in the cross-border landscape. The potential for creating additional protected areas should be explored where necessary to maximise the representation and coverage of biodiversity targets (especially all threatened and species whose total ranges cross national boundaries).
TBCAs with a cluster of protected areas managed as a unit, but no focus on the intervening land	Management of this type of TBCA focuses almost exclusively on strengthening the effectiveness of non-contiguous protected areas in cross-border landscapes. An obvious challenge for implementing such TBCAs in tropical forests will involve the intervening matrix. Priorities should include developing innovative ways to safeguard the individual protected areas and enhancing livelihood benefits to local people in the landscape. Whenever possible, efforts should be made to develop and implement an integrated approach to the management of the TBCA.
Two or more contiguous protected areas adjoining across national boundaries and managed as a unit	The focus of this type of TBCA is on management of adjoining protected areas as a single landscape entity. The rationale for a single management unit for two or more adjoining forest protected areas will be a major undertaking. Therefore, the need for this type of TBCA should be based on clear biodiversity targets and the potential to leverage benefits in the cross-border landscape. Opportunities for increasing the protected area status should be explored where the representation and coverage of biodiversity targets is of global significance. Where one protected area is a World Heritage site, efforts should be made towards extending the World Heritage status to the entire TBCA.

& Manggil, page 15). Further, habitat restoration activities should be undertaken as integral components of TBCAS in tropical forests; as noted by Maginnis and Jackson (2002), the tropical forest landscape in many parts of the world comprises a mosaic of habitat types under various degree of anthropogenic influence.

The creation of a TBCA does not automatically imply or guarantee conservation success. Effective management must therefore be based on a commitment to address the range of social, economic, political and legal implications associated with the target landscape (see Trisurat, page 10, and Gasana, page 32). This will require the harmonisation of management objectives across borders to ensure consistency in meeting priority challenges on each side. Clearly, these challenges cannot be dealt with without a unified and integrated approach to implementing the TBCA, including a need for standards to guide effective management so that the whole is greater than the sum of its parts.

Given the usual dilemma of political and legal differences between countries, progress with TBCAS will depend on the degree to which institutions are willing to operate under a common governance framework that is consistent across borders. Such a framework will promote consistency in decision-making processes that affect the management of the TBCA on each side of the border. The Pha Taem Protected Forests Complex and Lanjak Entimau case studies presented in this edition illustrate the complexity involved in developing a common governance framework, which also underscores its importance in formulating TBCAS.

Although TBCAs are often government-controlled, the potential for leveraging economic benefits will depend on the extent to which other stakeholders such as local communities and private-sector entities are engaged. The economic benefit of TBCAS to local stakeholders is certainly one of the greatest advantages of their creation; however, expectations for TBCAs in tropical forest ecosystems should be managed carefully because such economic benefits are difficult to achieve, even at the level of individual protected areas. Despite their inherent richness in biodiversity, tropical forest ecosystems are rarely as amenable to wildlife-based tourism as the savanna woodlands of eastern and southern Africa. The long-term value and benefits of tropical forests to local community livelihoods may be more reliably sustained through protected areas than through alternative practices that only result in short-term gain. The relative lack of immediate, tangible economic benefits does, however, point to the importance of international assistance in the creation and ongoing management of many TBCAs in tropical forests.

Capacity development is a crucial need for TBCAS if the relevant innovations necessary for their management are to be introduced. Scaling up conservation to encompass the broader landscape imposes a need to refocus the thinking and management style of protected area managers, which has hitherto emphasised protection from the boundary inward; this approach is no longer adequate in tropical forests because non-anthropogenic threats are becoming increasingly more important than those created by communities located adjacent to protected areas. Landscape approaches are needed to foster shared responsibility and environmental stewardship involving a range of stakeholders and sectors operating within the landscape. For TBCAS to work, innovation in park management should emphasise the transformation of the core competencies and skills that are necessary for working beyond park boundaries.

Scaling up conservation to encompass the broader landscape imposes a need to refocus the thinking and management style of protected area managers

References

Griffin, J.D., Cumming, S., Metcalfe, S., t'Sas-Rolfes, J. Singh, J., Chonguiça, M. Rowen, M. & Oglethorpe, J. 1999. *Study on the development of transboundary natural resource management areas in Southern Africa.* Biodiversity Support Program, Washington, DC.

Hilton-Taylor, C. (compiler) 2000. 2000 *IUCN Red list of threatened species*. IUCN, Gland, Switzerland and Cambridge, UK.

IUCN 1998. 1997 *United Nations list of protected areas*. Prepared by WCMC and WCPA. IUCN, Gland, Switzerland and Cambridge, UK.

Miller, K. 1996. *Balancing the scales: guidelines for increasing biodiversity's chances through bioregional management.* World Resources Institute, Washington, DC.

Maginnis, S. & Jackson, W. 2002. Restoring forest landscapes. ITTO *Tropical Forest Update* 12:4.

Sandwith, T., Shine, C., Hamilton, L. & Sheppard, D. 2001. *Transboundary* protected areas for peace and co-operation. IUCN Gland, Switzerland and Cambridge, UK.

van der Linde, H., Oglethorpe, J., Sandwith, T., Snelson, D. & Tessema, Y. (with contributions from A. Tiéga & T. Price) 2001. *Beyond boundaries: transboundary natural resource management in sub-Saharan Africa.* Biodiversity Support Program, Washington, DC.

This paper is based on the keynote address delivered by the author at the ITTO/IUCN International Workshop on "Increasing Effectiveness of Transboundary Conservation Areas in Tropical Forests", 17–21 February 2003, Ubon Ratchathani, Thailand.