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ITTO

Tropical Forest UPDATE

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The transboundary transition

Conservation across borderlines is an idea whose time has come. Nowhere is this more clear than in the Condor Mountains, where a transboundary conservation area (TBCA) between Ecuador and Peru has not only improved relations between governments, it has empowered the region's Indigenous peoples—Wampis and Shuar (pictured), among others—to strengthen their cultural identities, renew cross-border family ties and seek new livelihood opportunities.

In 2003 ITTO and IUCN hosted, at Ubon Ratchatani in Thailand, what was believed to be the first international forum to review experiences in the transboundary conservation of tropical forests. Mostly the experiences were recent: it was still unclear if the concept would work.

There is more clarity now. In July this year ITTO teamed with Ecuador's Ministry of Environment, the Secretariat to the Convention on Biological Diversity, IUCN, Fundación Natura and Conservación Internacional-Ecuador to convene a second international conference on biodiversity conservation in transboundary tropical forests. The conference

Special edition ▸ Transboundary conservation

ITTO

Photo: G.S. Bhardwaj

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Cover image A Shuar family enjoys an early-morning dance in the Condor mountains. *Photo: N. Kingman*

heard that several of the TBCAs that were early experiments at the time of the Ubon Ratchatani conference are now successful institutions; many other initiatives have been launched and are showing positive signs.

Much has been learned since 2003 about both the pitfalls of TBCAs and their many advantages. We know much more about the keys to success. This special edition of the *TFU* takes a look at a range of initiatives and draws lessons from them all.

Sandwith (page 5) reports that, globally, there are now more than 220 TBCAs, covering an area of at least 460 million hectares. The value of TBCAs has been questioned in the past but is becoming increasingly clear. "Climate change," says Sandwith, "is an issue that eclipses all others; it is the single most transboundary thing that we, the global community, have ever experienced and it requires a profoundly transboundary response."

Gasana (page 7) identifies several factors that are critical for the effective governance of TBCAs: political will; a political vision; joint structures and synergies; and a mixture of financing mechanisms. He concludes that, in the future, TBCA governance should be re-imagined to give sufficient role to non-state actors and to devolve an adequate share of power to local levels.

The range of TBCA initiatives in all three of the tropical regions (Africa, Asia-Pacific and Latin America and the Caribbean) is already impressive. For example, China, India and Nepal are considering a proposal for the coordinated management of the Kailash Sacred Landscape (page 18). In Africa, the huge TRIDOM TBCA (page 11), which was created in 2005, is helping to improve governance in the region, as could the Mayombe TBCA (page 15), a new initiative between the two Congos and Angola. For its part, ITTO has played a significant role in expanding and demonstrating the potential of the TBCA concept, funding projects to help bring more than 10 million hectares of TBCAs under management, including between Malaysia and Indonesia (page 16), Thailand, Cambodia and Laos (the 'Emerald Triangle'; page 20), and Ecuador and Peru (page 24).

ITTO has joined forces with the Secretariat of the Convention on Biological Diversity (CBD; page 9) in an initiative to support the implementation of the CBD's programme of work on forest biodiversity in ITTO producer countries. At the recent Conference of the Parties to the CBD, Japan announced additional funding of US$2 million to support the Emerald Triangle TBCA (which has already received ITTO support through the governments of Switzerland and Japan in recent years) through the initiative.

In a statement issued at the conclusion of the conference (page 30), participants expressed the view that transboundary conservation can catalyse new approaches to governance in border areas, addressing power imbalances between governments and local stakeholders. It can also increase peaceful cooperation in combating global and regional problems.

TBCAs in tropical forests can also help to:

- ensure the supply of drinking water where catchments straddle political borders
- control the illegal trade of forest products, including the smuggling of wildlife and timber
- resolve borderland political and cultural disputes
- create synergies between management agencies across borders
- sustain species gene pools by improving the size and connectedness of conservation areas.

At the conclusion of the conference, delegates from African countries invited ITTO and co-organizers to convene a follow-up meeting in the Congo Basin in 2012 in order to further share experiences and to ensure that TBCAs are further promoted. Transboundary conservation has crossed the line: once an oddity, it now has an essential role to play in ensuring the health of ecosystems, communities, nations and the planet.

Alastair Sarre, Steve Johnson, Eduardo Mansur and Hwan Ok Ma (co-editors)

The International Conference on Biodiversity Conservation in Transboundary Tropical Forests took place in Quito on 21–24 July 2010. It was attended by about 100 experts from Latin America, Africa and Asia and representatives of the public sector, civil society and academic and research institutions. All papers and presentations are available at http://www.fnatura.org/documentos/conferencia_2/c_i_bosques.php.

The opening session

The transboundary conservation of tropical forests is an idea that has arrived

Emmanuel Ze Meka

Executive Director, ITTO

Rapid progress? A TBCA project field team pushes its longboat over a tricky spot in the river, deep inside Malaysia's Lanjak-Entimau Wildlife Sanctuary on the border with Indonesia. *Photo: B. Diway*

It is a great honour and pleasure to warmly welcome you to the opening of the International Conference on Biodiversity Conservation in Transboundary Tropical Forests. This conference is being organized by ITTO within the framework of the International Year of Biodiversity, in collaboration with the Secretariat of the Convention on Biological Diversity and IUCN and with the support of the Ecuadorian Ministry of Environment, Conservation International-Ecuador and Fundación Natura.

Transboundary conservation provides an effective framework for consultation, international cooperation and policy development. It can be a vehicle for improved trans-border relations. It can provide a mechanism for re-uniting peoples separated by political boundaries. And it can be used to engage Indigenous people and local communities in conservation and sustainable development opportunities.

Transboundary conservation can also provide a medium by which tropical countries, and Indigenous and local communities within them, can secure payments for the environmental services that tropical forests provide. Transboundary conservation forests have great potential, for example, for attracting payments for reduced carbon emissions from deforestation and forest degradation—known as REDD-plus.

Transboundary conservation areas can help to improve forest law enforcement and governance. The increased presence of national forest protection agencies in border areas and improved control mechanisms established through transboundary conservation projects discourage illegal logging and timber and wildlife smuggling.

For all these reasons, and others, transboundary conservation is an idea whose time has come.

It is not easy. It requires a considerable amount of cooperation and commitment at the highest levels of all involved governments. International organizations such as ITTO, the CBD Secretariat, IUCN and Conservation International help to foster such cooperation and commitment by facilitating dialogue between countries and—importantly—by funding activities.

The long-term commitment of donors is essential for the success of many transboundary conservation initiatives. The International Tropical Timber Council has, in a tangible way, shown its support for transboundary conservation in tropical forests over more than 15 years. I hope that it will continue to back the concept through projects and other activities.

Many local communities living in or near transboundary conservation reserves have limited options for generating income. If they are to support transboundary conservation they must be able to pursue credible livelihood opportunities, and they must be intimately involved in decisions on the management of the resource. Local people make wonderful partners in transboundary conservation, but it is essential that they have a strong incentive to be involved.

These are just some of the challenges facing transboundary conservation. There are many more, and no doubt this conference will canvass them all.

Transboundary conservation is an important, inclusive concept. I wish you all well in your efforts to promote it, at this conference and beyond.

H.E. Osamu Imai

Japan Ambassador to Ecuador

In October this year, the Government of Japan will host, in Nagoya, the 10th Conference of the Parties to the Convention on Biological Diversity. We are convinced that this conference will contribute significantly to the new post-2010 target on biodiversity and, as part of that, it is important to present the results of this conference there.

Japan is a long-time supporter of ITTO, including its work on transboundary conservation. Specifically it has provided more than US$9 million to fund ITTO projects directly concerned with the conservation of biodiversity. Here in Ecuador, Japan is supporting the ITTO-funded Condor transboundary conservation project on the border with Peru, a project we will hear more about during the conference.

Daniel Grünenferlder

Responsible for Economic Affairs

Swiss Embassy in Ecuador

Protected forests in border lands are of the utmost importance for mankind. In addition to harbouring biodiversity, these forests increasingly contribute to the alleviation of rural poverty by providing new opportunities for the economic development of non-timber products and environmental services.

The state of tropical forests gives cause for great concern. They are still being destroyed on a large scale. The tropical timber industry has been criticized for causing forest destruction, depleting biodiversity and paying insufficient attention to local communities. The International Tropical Timber Agreement has proven its worth as the only existing international instrument that seeks to reverse this trend by ensuring that the economic use of tropical timber is balanced with environmental and social care. Since the 1990s, ITTO has provided support for transboundary conservation over about 10 million hectares. In addition, forest conservation is contributing to the preservation of carbon stocks and climate-change mitigation. We are pleased that the implications of transboundary conservation for climate-change mitigation will be discussed at this conference.

Switzerland is a major supporter of ITTO's efforts in transboundary conservation. We believe that these projects have the potential to attract political support, not just for sustainable development and biodiversity conservation but also to address illegal trade in forest products.

Switzerland co-funded the first phase of the Peru–Ecuador transboundary conservation project, which aimed to contribute to peace through transboundary conservation and sustainable development for Indigenous and local communities. Switzerland also co-financed an ITTO project in the Tambopata–Madidi TBCA, which, in its first phase, generated and collected economic and social information for the establishment of coordinated participatory efforts between the two countries towards conservation and sustainable development.

It is exciting to see that experts from so many countries have come together to discuss and share experiences on transboundary conservation. I am impressed that nearly all the key stakeholder groups are represented—the public sector, the private sector, civil society, communities and research. This is essential. Past experience has shown that projects have failed because they have not involved relevant stakeholders.

This conference is taking place when stakeholders are joining forces to combat illegal logging and related timber trade and to promote sustainable forest management. We will continue to work with our partners to ensure that the outcomes of this conference are taken up.

Luis Alfaro Lozano

Head, Peruvian National Service for Natural Protected Areas

Ten years ago I participated in a technical committee between Ecuador and Peru to implement the agreement on protected areas on the border between the two countries. The project there, which is supported by ITTO, is very important for a number of reasons. By now, Peru has established 15 conservation areas in the area covering 2.5 million hectares and involving more than 50 000 inhabitants. Many of the areas belong to communities—a very important element. We need to consider how the area should become an opportunity for people.

We are still learning about what can be shared and exchanged across the border—the joint intent to conserve the corridor has started a process of cross-cutting cooperation. Many things have changed; people out there in the field are exchanging their experiences on a daily basis and we are facilitating those efforts. We have very interesting projects and it is very good for us to have this meeting in order to see what the mistakes have been, and where new opportunities can be found.

H.E. Marcela Aguiñaga Vallejo

Minister of Environment

Government of Ecuador

Some 19% of Ecuador is in protected areas. In recent years Ecuador has introduced a new program called Sociobosque, which aims to involve local communities, farmers and Indigenous people in the voluntary conservation of fragile forest and arid-zone ecosystems through the payment of incentives. The program now covers 553 areas over more than 500 000 hectares, and the goal is to cover 4 million hectares, increasing by about 200 000 hectares per year. Much needs to be done, but as an Ecuadorian I am very proud of what has been achieved so far. It has been so successful that our neighbours are considering similar schemes.

We are also trying to improve the legal framework for the control and monitoring of forest operations, including through an initiative to establish a national system of forest monitoring.

We accept the challenge of conserving our forests, and I thank the organizers of this conference, and all its participants, for giving us the opportunity to discuss this challenge over the next three days. As Minister of the Environment I will review all the results that are attained here so that they may be implemented.

The ultimate transboundary problem

The challenge of climate change has brought a new urgency to transboundary conservation

by Trevor Sandwith

The Nature Conservancy
Arlington, Virginia, USA

Linked: Africa's last glaciers in the Rwenzori Mountains National Park, straddling the border between Uganda and the Democratic Republic of the Congo. *Photo: K. Adcock*

My central message is about the interconnectedness of the world, which explains the inclusion of a glacier photo with this article. The glacier shown in the photo is on the border between Uganda and the Democratic Republic of the Congo in Central Africa. It is in the fabled mountains of the moon and is one of the sources of the Nile. If there were no glaciers there would be no tropical forests, and vice versa. This interconnectedness is the reason that transboundary conservation is essential for the future health of the planet.

Transboundary approaches are growing

The number of transboundary conservation complexes is growing in every part of the world and notably in the tropics. Globally, the number of transboundary conservation areas increased from 59 in 1988, to 136 in 1997, to 227 (incorporating 3043 sites and covering an area of 460 million hectares) in 2007. Many organizations have also been working over the years to provide guidance on how to do transboundary conservation better. The Convention on Biological Diversity has a programme of work on protected areas that includes transboundary conservation targets and goals. But we have always faced the same central questions: do the costs of implementing transboundary cooperation justify the returns? Should we be doing it at all?

Transboundary conservation and climate change

The issue of climate change has brought clarity to these questions. It is an issue that eclipses all others; it is the single most transboundary thing that we, the global community, have ever experienced and it requires a profoundly transboundary response. It makes transboundary conservation imperative.

Addressing climate change is difficult because, at almost every step, it is about the sovereignty of nations. It requires new approaches to the ways in which nations cooperate and are accountable together. Apart from multilateral policy negotiations, can transboundary conservation help with this?

In negotiations on global responses to climate change, the principle aims are to address the causes of increased greenhouse gas concentrations in the atmosphere and to deal with the inevitable climate-associated impacts that human communities everywhere are facing, such as extreme weather events and rising sea levels. Ecosystems are not the focus of attention. But natural ecosystems provide some essential services to society. First, carbon is captured and stored in natural ecosystems, particularly tropical forests and, second, natural ecosystems that are affected by climate change are the sources of water, food and fibre on which most economies depend. Protected-area systems have a special role to play as the core of large-scale conservation efforts to reduce greenhouse gas emissions and increase carbon capture and storage, and also to maintain essential services upon which people depend for their security and livelihoods. These ecosystem-based approaches to climate change are important for increasing both ecosystem resilience and, importantly, societal resilience, particularly if vulnerable people are closely involved in these efforts.

So where does transboundary conservation come in? Well, international boundaries often use natural features for demarcation. Therefore, many of the world's most important ecosystems straddle the borders between adjacent states, whether in shared watersheds, river basins, oceans or large blocks of tropical or temperate forests. What happens on one side of the border affects the other and determines the outcome for both countries. Impacts on water supplies affect

countries and communities downstream, and sea-level rises cause people to move in search of safer places to live and new sources of food. These border areas are often the location of large protected areas; a transboundary conservation approach offers the opportunity for adjacent countries to cooperate in the planning and management of the areas for their mutual benefit. Importantly, such cooperation may also be the means whereby resource conflicts and climate-refugee situations can be resolved.

In encouraging transboundary approaches we need to solve some tricky issues, such as the need for financial mechanisms that enable effective action on the ground, as well as institutional responsibilities and accountability. It isn't easy, but it is important.

Transboundary REDD

There is increasing interest in ecosystem-based approaches to climate-change mitigation. Recently, plenty of attention has been paid to reducing emissions from deforestation and forest degradation (REDD) as well as REDD-plus—which takes into account the conservation of forests, the sustainable management of forests and the enhancement of carbon stocks. But there is still plenty of ground to cover: we could be 5–15 years away from an international agreement on REDD. In the meantime, the need to conserve large tracts of tropical forests that span international boundaries remains imperative, and transboundary conservation programmes offer opportunities to achieve this.

The United Nations Environment Programme–World Conservation Monitoring Centre has recently produced a carbon atlas showing the location of the most important carbon stocks. We can now ask: where is the carbon, and where does it coincide with important areas for biodiversity conservation? Maybe this is a way of prioritizing where we act on REDD. Currently, government-designated protected areas covering just over 11% of the earth's land surface and store more than 15% of global carbon stocks. Although this suggests that 85% of global carbon stocks are still unprotected, this is not the end of the story, as many forms of protected areas, including indigenous peoples' territories and community-conserved areas, also contribute enormously to maintaining carbon-rich ecosystems.

The figure shows deforestation in Rondônia in the Brazilian Amazon. Almost all the deforestation in the period 1997–2000 took place outside protected areas and indigenous peoples' territories and other communal lands. So the importance of such areas in the conservation of carbon should not be underestimated. Linkages across boundaries in the management of those areas will become increasingly important. This is particularly true as the agents of deforestation will exploit differences in regulatory and management regimes in adjacent territories unless countries cooperate to address the problem. Otherwise, solving the problem in one country may simply increase pressure for exploitation in the adjacent country. Countries will need to cooperate, therefore, to prevent international leakage.

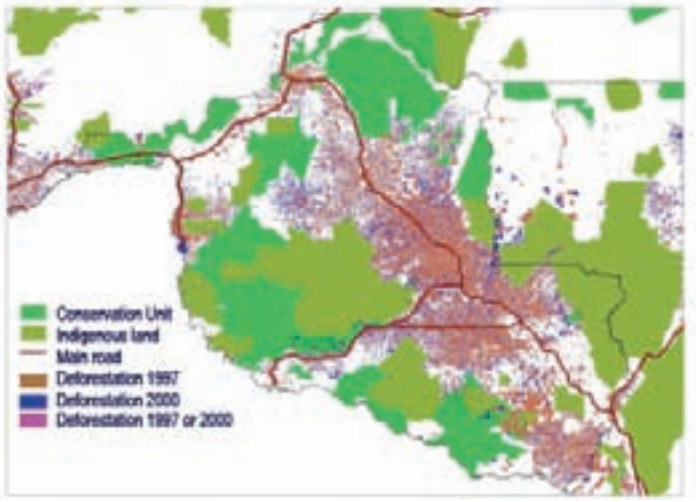
Many questions

There are many other questions. How do we mobilize all stakeholders—Indigenous peoples and local communities, and the private and public sectors? Can we foster synergistic responses? Is transboundary conservation cost-effective? Is it politically and practically feasible to get the main environmental conventions to develop joint work programs? Can we develop rules for climate-change financing, such as the use of market mechanisms for REDD, that will address social and environmental safeguards? What about the rights and involvement of Indigenous peoples and local communities, especially those whose territories straddle international boundaries? Although we do not yet have all of the answers to these questions, there are many pilot projects and demonstrations being conducted to better understand how and when to apply these approaches.

Can we make transboundary conservation work to address some of these very difficult challenges? Increasingly we are showing that we can.

Expanding

Deforestation in Rondônia, 1997–2000



Source: Brazilian National Institute for Space Research

Is the concept of sovereignty changing?

Comment from the floor: The concept of sovereignty is evolving internationally. Twenty years ago, nothing trumped sovereignty, but now transnational institutions—such as the International Criminal Court—are starting to transcend it. This is not yet the case for environmental issues, but gradually I see this occurring. We will see it when environmental issues become linked more strongly to human rights.

Governing TBCAs

TBCAs usually require both high-level commitment and a devolution of power

by James K. Gasana

Swiss Foundation for Development and International Cooperation

Bern, Switzerland

Noisy: Effective TBCAs need stakeholder participation mechanisms that enable all voices to be heard. *Photo: W. Cluny*

What does governance mean in the management of transboundary conservation areas (TBCAs)? It goes beyond the signing of protocols between national governments. The temptation may be to think that the process ends at the signing of the protocol, as if the 'problem' has been solved. Formal protocols tend to follow a top-down approach and are insensitive to local strategies—so they are not the ultimate solution to the problems of TBCAs. Effective governance must consider the exercise of power at all relevant levels of authority so that the process leads to consensus decision-making and sustainability.

Transboundary conservation is all about the challenge of collaboration. Usually, a TBCA comprises contiguous areas in two or more countries that are set aside for conservation. But there are also more complex situations where the areas are not contiguous[1] and are in a very variegated landscape[2]—consisting of a mosaic of protected areas, timber concessions and community-owned areas, for example. The set of institutional responsibilities can also be highly complex, with a fragmentation of authority both geographically but also by tenure, land use and political jurisdiction. The challenge is to build a governance system that transcends political boundaries (international) and institutional boundaries (internal) by creating conditions for collaboration between countries and public and private actors within countries. Sometimes there are more problems to solve internally than between the partners of the transboundary conservation initiative.

Drivers of change

Change in the governance of borderlands may have many drivers, which may be direct or indirect. Indirect drivers may include a desire to increase political stability in the area, resolve border disputes, increase economic integration and improve cross-border transport infrastructure. Demographic concerns may also be driving changes in governance. Direct drivers can include international and regional treaties and other agreements, changes in land use, illegal cross-border activities, climate change and refugee crises. While the contexts are very diverse, the key issues tend to be similar: threats to biodiversity, weak institutional capacities, varying degrees of political will, limited stakeholder participation, and poverty.

Once a decision has been made to initiate a TBCA process, its governance must be developed with a view to addressing the issues in a way that best suits the local context.

The four pillars of governance

There is no single blueprint for the effective governance of TBCAs, but any process must be built on the following four pillars:

1. *Political will*—from national and sub-national governments.
2. *A political vision*—to address transboundary issues of shared interest through the coordination of policies, institutions and management.
3. *Joint structures and synergies*—with clear mandates at national levels, inter-institutional coordination, and stakeholder participation mechanisms that include Indigenous Peoples, local communities and municipal authorities.
4. *A mixture of financing mechanisms*—funding from national budgets, private, bilateral and multilateral donors, and the private sector, wherever feasible.

1 *An example is the protected areas of the Emerald Triangle between Cambodia, Laos and Thailand (see page 20).*

2 *An example is the TRIDOM landscape in Central Africa (see page 11).*

To these four, a fifth may be added related to the need to strengthen capacities in government institutions and among stakeholder groups at all levels.

Pillar 1: political will

Symbols like the inauguration of TBCA initiatives by high-level authorities can provide enduring support. A recent example of such a symbol was the official launching of the joint 'Trans-boundary Peace Park' project in May 2009 by the presidents of Liberia and Sierra Leone (BirdLife International 2009). That single gesture takes the process half-way to success because the rest of the process can follow in the knowledge that there is high-level support.

Banded: Green broadbill, captured for banding in the Lanjak-Entimau Wildlife Sanctuary. *Photo: W. Cluny*

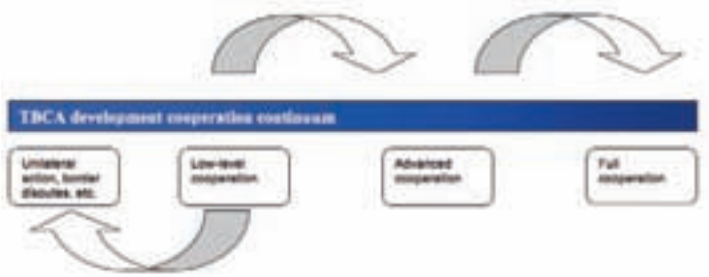
There are varying levels of intensity of collaboration. At one extreme is low cooperation, which may involve donor funding, information-sharing and some level of coordinated implementation. At the other extreme, full cooperation may involve bilateral or trilateral agreements, joint TBCA institutions, joint management and implementation, and financial independence. In between, these two extremes are all kinds of possibilities (see figure).

Often, an obstacle to the implementation of a TBCA is the hesitancy of states to give power to non-state actors, thinking that they will influence decisions on natural resource use. Most countries have a strong sense of sovereignty and will resist devolving power and territory to ethnic groups spanning international borders, and they may also resist the involvement of non-governmental organizations.

Another obstacle may be differences in the extent of political will. One party, for example, may suspect that a richer or more powerful neighbour has a hidden agenda in promoting a TBCA development initiative. The suspicion may be 'do they want to push the border'? We have seen this in Central Africa.

Other obstacles may relate to the natural resources, such as petroleum, gas or minerals, that exist (or may exist) in the TBCA, and tensions between local communities and logging concessionaires or miners. Overcoming such obstacles may require a governance process that starts without formal agreements and uses other, more informal ways to build up trust until full institutionalization is reached.

The TBCA development cooperation continuum



Pillar 2: a common vision

TBCAs are usually designed to conserve biodiversity and natural heritage and to promote sustainable development across borders. Other reasons may be to reduce tensions from past conflicts and to improve forest law enforcement. A diversity of reasons for a TBCA is not a scattering of the vision but a reinforcement of it. The important thing is that these justifications of a TBCA are shared by all stakeholders.

Peace-building comprises 'actions to identify and support structures which tend to strengthen and solidify peace in order to avoid relapse into conflict.' The development of a TBCA may be one such action. In post-conflict situations, TBCA governance approaches may deal with:

- peace-building objectives and outcomes and the monitoring of these
- grievances related to rights of access to resources by local people
- participatory democracy in the management of the TBCA.

TBCAs can assist forest law enforcement by helping to monitor and control what is passing through, smuggled or cut in the area. Obstacles include different approaches to the export of unprocessed logs (it may be banned in one country but not another), which can lead to log laundering; the liberalization of hunting weapons in one country and not in its neighbour; and the classification of a species as totally protected in one country but not in the other.

Some of these inconsistencies can be addressed at the sub-regional level. In Central Africa, for example, the COMIFAC treaty is a sub-regional illustration of responsible sovereignty over natural resource governance. This treaty has become a springboard for new important TBCA governance and forest law enforcement initiatives. Examples of this are the TRIDOM agreement between Cameroon, Gabon and the Republic of Congo to protect 14.6 million hectares of forests, the equivalent of 7.5% of the entire Congo Basin; and a separate trilateral agreement between Cameroon, the Central African Republic and Congo concerning the Sangha Tri-National Conservation Area. These Agreements on TBCAs allow park staff between the three countries to work across international borders to counter illegal logging and poaching.

Pillar 3: Joint structures and synergies

The management of TBCAs takes place at various levels. At the sub-regional level there may be ministerial or heads-of-government agreements, visions and agendas. At the transboundary level, there may be bi-(or tri-)national environmental commissions, project steering committees, exchange visits and joint reviews. At the national level there may be institutional coordination mechanisms and consultative committees. At the local level, new institutions may be established, such as primary beneficiaries' fora, and on-the-ground activities, transboundary exchange visits and local-level law enforcement may be carried out.

Continued on page 9

The CBD's new strategy

The Convention on Biological Diversity has a new strategic plan that emphasises connectivity at the landscape scale

by Tim Christophersen

Secretariat of the Convention on Biological Diversity

Montreal, Canada

Global Biodiversity Outlook 3 (GBO-3), this year's flagship publication of the Convention on Biological Diversity (CBD), confirms that the world has failed to meet its target of achieving a significant reduction in the rate of biodiversity loss by 2010. It also warns that, unless urgent and concerted actions are taken, massive further loss of biodiversity is becoming increasingly likely and that such a loss would severely reduce many services that are essential to human societies.

In addition to its overall assessment of the 2010 target, GBO-3 identifies potential global-scale ecological 'tipping points', where ecosystems shift to alternative, less productive states from which it may be difficult or impossible to recover. The projected Amazonian dieback tipping point, for example, is a threshold level of deforestation at which the Amazon forest could collapse due to interactions between climate change, deforestation and fire. Similar large-scale tipping points with potentially devastating consequences for human well-being exist for freshwater, coral and island ecosystems, among others. Such dangerous biodiversity loss must be avoided, and the cost of inaction will be far greater in the medium to long term than the immediate investments needed to safeguard biodiversity.

Building on the findings of GBO-3, a new strategic plan for the CBD was adopted at the tenth meeting of the Conference of the Parties (COP 10) held in Nagoya, Japan, in October 2010. The new strategic plan, which covers the period 2011–20, is based on the understanding that a more comprehensive policy response to the biodiversity crisis is needed, which should address underlying causes of biodiversity loss, such as consumption patterns, and focus on the value of ecosystem services for human well-being.

The key needs reflected in the new strategic plan are:

- greater efficiency in the use of land, energy and fresh water to meet growing demand
- the use of market incentives and the avoidance of perverse subsidies

Tipping point? A combination of climate change, deforestation and fire could lead to the collapse of the Amazon forest, including this flooded forest on the Rio Negro.
Photo: FAO/FFS CFU000106/R. Faidutti

- strategic planning
- the restoration of ecosystems
- the equitable sharing of benefits from the use of and access to genetic resources and associated traditional knowledge
- support for and facilitation of local action
- communication, education and awareness-raising.

Forests, as home to an estimated two-thirds of all terrestrial species and a major source of essential ecosystem services, will be particularly important in fulfilling the mission of the new strategic plan. The overall mission of the strategic plan is to "take effective and urgent action to halt the loss of biodiversity in order to ensure that by 2020 ecosystems are resilient and continue to provide essential services, thereby securing the planet's variety of life, and contributing to human well-being, and poverty eradication".

... continued from page 8

Most of the time, governance structures at the transboundary level hijack power from the lower, more local levels. Such power imbalances are one of the major problems in the implementation of TBCAs because the weak involvement of local levels of authority reduces their ownership of the TBCA process. In addition, the 'projectization' of TBCAs weakens their sustainability unless measures are introduced to transition from projects towards a longer-term approach that addresses financial sustainability (the fourth pillar of TBCAs).

Conclusion

TBCA governance processes are essentially political and their success depends largely on the political climate between the parties concerned. Moreover, the physical, institutional, economic and social contexts vary widely. Thus, there are no blueprints for the establishment of effective TBCA governance.

For success, the focus of TBCA governance processes should be on issues of shared interest. In the future, TBCA governance should be re-imagined to give sufficient role to non-state actors and to devolve an adequate share of power to local levels.

Reference

BirdLife International (2009). *Trans-boundary rainforest park will be a symbol of peace and stability* (available at http://www.birdlife.org/news/news/2009/05/peace_park_west_africa.html).

While most of the targets in the strategic plan are relevant to forests, four targets relate directly to forest policy and practice[1]:

- Target 5—By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.
- Target 7—By 2020, areas under agriculture, aquaculture and forestry are managed sustainably, ensuring the conservation of biodiversity.
- Target 11—By 2020, at least 17% of terrestrial and inland water and 10% of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes[2].
- Target 15—By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced through conservation and restoration, including the restoration of at least 15% of degraded ecosystems, thereby contributing to climate-change mitigation and adaptation and to combating desertification.

The key tool for implementation of the strategic plan in forests is the CBD's programme of work on forest biodiversity, which was adopted in 2002 and reviewed in 2008. It has three main elements: (1) conservation, sustainable use and benefit-sharing; (2) institutional and socioeconomic enabling environment; and (3) knowledge, assessment and monitoring. Within these three elements there are 130 specific actions for achieving the objectives and strategic goals of the CBD, and the 193 Parties are implementing specific actions based on their national contexts.

The programme of work on forest biodiversity covers all types of forests, including tropical production forests. A key argument for biodiversity conservation in production forests in the context of climate change is that biodiversity underpins forest ecosystem resilience at multiple scales. A scientific synthesis in 2009 of over 400 peer-reviewed articles confirmed that the resistance and resilience of forests, and thus the ecosystem services they can provide, are directly linked to biodiversity (Thompson *et al.* 2009). Diverse, large and unfragmented forest landscapes have the best long-term climate-change mitigation and adaptation potential. If they are sufficiently large, transboundary conservation areas can contribute to a long-term, stable flow of ecosystem services. The need for investments in biodiversity to mitigate risks for forest health and stability, in particular in view of the impacts of climate change, as well as the key role of biodiversity to help societies adapt to climate change, was also emphasized by GBO-3.

The inter-linkages between forest stability and biodiversity also have important consequences for the planning, design and implementation of reducing emissions for deforestation and forest degradation in developing countries (REDD-plus[3]) and other forest-based mitigation and adaptation measures, because the permanence of forest carbon stocks and other ecosystem services depend on biodiversity. The CBD has welcomed efforts towards the introduction of REDD and invited governments to ensure that it does not run counter to the objectives of the CBD and that it provides benefits to Indigenous Peoples and local communities (Decision IX/5).

While biodiversity plays an important role in the effective long-term storage of carbon in forests, REDD-plus could have both positive and negative impacts on biodiversity. It is crucial, therefore, that biodiversity is appropriately considered in the development and implementation of REDD-plus. The potential to simultaneously address the biodiversity crisis and climate change is unprecedented, while poorly designed REDD-plus efforts could damage forest biodiversity and in the process threaten the continued provision of ecosystem services for human well-being. The CBD is supporting its Parties and key actors and stakeholders in ensuring that biodiversity benefits are at the forefront of discussions on REDD-plus. In the context of transboundary conservation, the potential of REDD-plus to enhance ecological connectivity should be explored.

The CBD's new strategic plan, with its strong focus on forest ecosystems, offers a unique opportunity to streamline global forest-related targets, such as commitments under the United Nations Framework Convention on Climate Change. The ambitious targets of the strategic plan will require strong partnerships and coordination between relevant actors at the local, national and international levels. A further strengthening of the collaboration between the CBD and ITTO will help to ensure that the targets can be achieved in tropical forests.

Reference

Thompson, I., Mackey, B., McNulty, S. and Mosseler, A. 2009. *Forest resilience, biodiversity, and climate change: a synthesis of the biodiversity/resilience/stability relationship in forest ecosystems*. Technical Series No. 43. Secretariat of the Convention on Biological Diversity, Montreal, Canada.

1 *Of a total of 20 targets, grouped under five strategic goals.*

2 *Target 11 is of particular importance in the context of biodiversity conservation in transboundary tropical forests, as it opens new opportunities for joint management of protected areas, buffer zones and ecological corridors across two or more countries, which could be supported, for example, through ITTO projects.*

3 *With reference to Decision 4/CP.15 of the United Nations Framework Convention on Climate Change, REDD-plus refers to "policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries". The acronyms REDD and REDD-plus are used for convenience only, without any intention to pre-empt ongoing or future negotiations under the United Nations Framework Convention on Climate Change.*

Three nations, one conservation complex

The future of a TBCA in a large forested landscape in the Congo Basin depends on benefits accruing to local people

by Grégoire Ngono

Specialized Research Centre on Forest and Environment

Meyomessala, Cameroon

Baby chimp: The chimpanzee is one of the most endangered species in the TRIDOM landscape. *Photo: FAO/FO-0034/Souvannavong*

TRIDOM – the Tri-national Dja–Odzala–Minkébé landscape – lies within the Western Congo Basin Moist Forest Ecoregion, the world's second-largest expanse of rainforest. It is a zone of about 14.6 million hectares spanning territories in the Republic of Congo, Gabon and Cameroon (see map next page) and includes seven protected areas with a total area of 3.6 million hectares (see table). The TRIDOM cooperation agreement between the three countries was signed in 2005 and defines a tri-national governance structure.

Gorillas and more

National protected areas in TRIDOM

Country	Protected area	Year of creation	Area ('000 hectares)
Congo	Odzala-Koukoua National Park	1935/1999	1250
Gabon	Minkébé National Park	1997/2002	757
	Ivindo National Park	1971/2002	300
	Mwagna National Park	2002	116
Cameroon	Boumba-Bek National Park	2005	309
	Nki National Park	2005	238
	Dja Fauna Reserve	1950	526
	Mengame Gorilla Sanctuary	2001	122
Total			3618

Most of the TRIDOM landscape is covered by forest, including dense mixed forests rich in Meliaceae, Ulmaceae and Sterculiaceae (in particular *Triplochiton scleroxylon*) with an abundance of *Terminalia superba* and *Lophira alata*; forests scattered with Marantaceae; forests with a monodominance of *Gilbertiodendron dewevrei*; and young and old secondary forests with *Musanga*. Common timber species are *Entandrophragma utile* (sipo), *E.cylindricum* (sapele), *E. angolense* (tiama) and *E. candollei* (kosipo); combined, these make up 90% of exports of sawnwood from northern Congo and their abundance explains the interest of logging companies in the region.

In Cameroon, logging is becoming an increasingly important part of village economies, especially since 40% of the taxes collected on logging are transferred to the communities but also because community forestry is growing in significance there. In Gabon there has been an increase in the practice of 'family felling', which is affecting bands of trees located within 5 km of roads. No community forests have yet been designated in these areas and the local people sub-contract logging to medium-sized companies. This is a new source of quick income for rural populations, but it also has environmental implications. Studies carried out in the Odzala-Koukoua National Park, for example, show that the Marantaceae forests have a tendency to spread, to the detriment of dense forests (Brugière *et al.* 2000).

The TRIDOM landscape is one of the richest ecoregions in Africa, supporting many species of mammals, including the western lowland gorilla and forest elephant, and a diversity of endemic birds, amphibians, fish and swallowtail butterflies. The region also provides food, materials, medicine and cultural resources for over 20 million people and plays an important role as a sink for and potential source of global emissions of carbon dioxide. In the majority of the landscape the average human population density is 1–2 inhabitants per km^2, but it reaches 3–4 inhabitants per km^2 in the Djoum and Somalomo regions in Cameroon.

TRIDOM landscape

Tri-national Dja-Odzala-Minkébé TBCA

Note: Cameroon's Mengame Gorilla Sanctuary, which is adjacent to Gabon's Minkébé National Park, is not shown.
Source: IUCN.

Vast expanses of the landscape, especially in Gabon and the Republic of the Congo, are totally uninhabited. The majority of people live in villages located along roads and in nine larger towns (see table below).

Big lights

The principal towns and cities of the TRIDOM landscape

Country	Town or city	Number of inhabitants
Cameroon	Yokadouma Lomié Djoum	15 000 4000 3000
Gabon	Makokou Oyem	12 000 23 000
Congo	Ouesso Sembe Souanke Mbomo	18 000 3000 5500 5000

The main ethnic group is Bantou composed of the Fang, Badjoué, Bulu, Kwélé, Kota, Nzime, Ndjem, Mboko, Bonguili and Sangha-Sangha. In addition to this group, which mostly comprises farmers, are Ba'aka and Bakola Pygmy communities, whose cultural attachment to their forests and their dependence on subsistence hunting and gathering make them extremely vulnerable to the enforcement of hunting control measures established to target commercial operators.

The area faces increasingly severe threats which have a number of diverse and interlinked root causes. In addition, a limited public-sector capacity to plan, oversee and control natural resource use, as well as the absence of a mechanism for coordinated transboundary activities, is contributing to the unsustainable exploitation of natural resources in the landscape.

The main objective of our project was to improve transboundary conservation management in collaboration with key partners and institutions in order to reduce pressure on the TRIDOM landscape. The project was initiated in 2007 by the Specialized Research Centre on Forest and Environment (CEREFEN) in collaboration with the National Forestry Department staff of Cameroon, Gabon and the Republic of the Congo.

Data were collected through desk and field studies and a range of rapid participatory diagnosis techniques. Measures undertaken by the project were:

- the identification of existing community groups that could constitute an entry point for project interventions in the landscape, and a review of their capacity needs for the uptake of best-bet natural resource management practices
- the introduction of agricultural and agroforestry innovations to forest-fringe communities in order to intensify agriculture outside the forest and provide incentives for communities to adhere to forest management objectives
- baseline desktop and field surveys and establishment of a database and library
- establishment of a system for long-term monitoring of forest ecosystem integrity and land-use patterns
- development of research and dialogue approaches involving all stakeholders in decision-making processes and the definition of landscape-level visions for long-term management.

Through desk studies and meetings with individuals and institutions, the stakeholders of the bushmeat industry were identified as: traditional hunters (groups, individuals); rural communities; bushmeat traders (buyers, sellers); urban society; state agencies charged with wildlife conservation and protection; international and national conservation institutions; the donor community; logging and mining companies; and policymakers. These stakeholders perform the five major functions of production, consumption, supply, management and research support.

The study revealed that biodiversity conservation in the TRIDOM landscape is realized by different stakeholders at three levels:

- the local level, composed of ethnic groups or Indigenous populations with socially and culturally oriented values
- the national level, represented by governments and logging companies with economically oriented values
- the international level, represented by international NGOs, funding agencies and development programs with ecologically oriented values.

The rapid participatory diagnosis revealed that:

- Major livelihood activities are agriculture with plantain, groundnuts, maize and vegetables, hunting and fishing, timber exploitation and NTFP gathering.
- Constraints to livelihood improvement are the loss of soil fertility, low yields from local crop varieties, and the absence of alternatives to the intensive use of forest land and resources (hence the destructive impact of use on the resource base).
- Forest management was considered by the communities to be the sole responsibility of forestry officers.

The main threats to biodiversity were the same in all three countries, albeit with varying intensities as a function of accessibility and proximity to urban centres. They were:

- livelihood-related, such as illegal timber harvesting, farming, and poaching
- governance-related, such as
  - the absence of an efficient resource management structure at the grassroots level
  - consequent inequity in resource use and benefit-sharing.

The following biodiversity conservation corridors are proposed in the area:

- a cross-border corridor between the protected areas of the Dja, Nki and Minkébé
- a cross-border corridor linking the Minkébé forest with a relatively new protected area in Cameroon (the Mengame Gorilla Sanctuary)
- a conservation corridor between Odzala-Koukoua National Park and the forests of the Djoua and the Ivindo National Park
- a conservation corridor linking the forest of Minkébé to the forest of the Djoua and the Odzala-Koukoua National Park.

The most endangered species in the landscape include elephants (*Loxodonta africana),* the western lowland gorilla *(Gorilla gorilla)*, buffalo *(Syncerus caffer)*, the bush pig (*Potamochoerus porcus)*, chimpanzees (*Pan troglodytes)* and the hippopotamus due to disruption of critical habitats. Some timber species, including *Baillonnella Toxisperma, Entandrophragma utile, E.cylindricum, E. angolense* and *E. candollei,* are threatened by illegal logging and by deforestation from slash-and-burn practices.

The real impact of the disappearance of the elephant is difficult to evaluate because the forest 'reacts' slowly to ecological modification. The elephant may play a very important role in forest ecology: for example, moabi (*Baillonella toxisperma*), a very slow-growing species, is highly desired by loggers. By transporting fruit from protected areas to the concessions, elephants may compensate for the increased scarcity of the trees.

Although most signs of gorilla presence were found in secondary vegetation, they were also found in agricultural fields on the edges of human settlement. In contrast to the gorilla, chimpanzees are widely distributed, occurring in primary forest as well as in secondary vegetation.

Surprisingly it was found that the logging and protected areas had complementary roles in the maintenance of species' populations. Many large mammals used different parts of the landscape at different times of the year and moved freely between protected and logged-over areas. Some common game species, such as *Atherurus africanus* (the African brush-tailed porcupine) are resilient to human pressures such as habitat degradation and hunting

Dialogue between border communities and resource managers is effective at the grassroots and regional level, and communities are now open to collaboration with the state in preserving biodiversity. We have learnt that:

- It is important to provide farmers living in or near protected areas or threatened ecosystems with the right incentives for forest conservation.
- If local people living in and around TRIDOM are granted the right to make resource-related decisions, they will embrace the responsibility to sustain those resources.
- The improvement of livelihoods will remove the necessity or justification for beneficiaries to continue with unsustainable or undesirable livelihood practices (e.g., slash and burn, wildlife poaching, illegal lumbering and illegal trading) to meet family needs.

Cleared: Slash-and-burn agriculture for cocoa plantation in the TRIDOM landscape. *Photo: G. Ngono*

- Conservation corridors between protected areas can improve connections between habitats and facilitate ecosystem dynamics through the flow of resources and energy and by accommodating the complex interrelated processes of ecological systems.
- While political boundaries provide certain benefits in terms of organization, they make it difficult to coordinate the activities of the individuals, organizations and communities separated by those boundaries. In conservation, boundaries maintain distinct zones on the landscape that reflect anthropogenic priorities, which affect the management and of wildlife, plants, and water .

Recommendations include:

- The TBCA development process should seek to empower people to solve problems actively by fostering participation, self-confidence, dialogue, joint decision-making and self-determination.
- International commitments for the conservation of genes, populations, species and assemblages of species or habitats should be reflected in the legal and regulatory frameworks guiding the allocation and use of land for production forestry.
- More use should be made of stakeholders' traditional or Indigenous site-specific knowledge on natural resource management and traditional conservation systems.

The hotspot between Nigeria and Cameroon

A TBCA that includes the Korup National Park and Cross River National Park could help resolve some chronic problems

by Edem Eniang

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Akwa Ebom, Nigeria

Korup National Park in southwestern Cameroon and Cross River National Park in southeastern Nigeria form a contiguous area separated by an international boundary. People living in enclave communities within both parks readily claim nationality on either side: for example, if Cameroonian authorities come to them for revenue collection or taxation they claim to be Nigerians, and vice versa. So it is a complex situation.

The region is a biodiversity hotspot: it contains, for example, the world's most northerly gorilla populations as well as chimpanzees and drill monkeys. Recently a new species of banded gecko was discovered following a series of field biological surveys and DNA studies: it has been named *Hemidactylus enianai* after the author, who collected a specimen at the Erokut Park entry gate of Cross River National Park in 2006.

Cross road: A signpost shows the way to the Cross River National Park in Nigeria. *Photo: E. Eniang*

There is cross-border friction. Recently, for example, Cameroon won a case in the International Court that awarded a large area of land to Cameroon from Nigeria (especially the oil-rich Bakassi Peninsula); needless to say, Nigerians are not happy about this. Now, some local people go into the forest and pull out markers and put them back into Cameroon in an effort to gain more farmland and nutrient-rich soils for crops. Recently there has also been a move in some Cameroonian quarters for Nigeria to relinquish the Obudu Cattle Ranch and Resort—a popular tourism destination—to Cameroon.

There is a need to respond sub-regionally to climate change. The Korup/Cross River complex has a large store of carbon. A coordinated response to climate change is required that enables the uptake of opportunities presented by REDD.

Transboundary friends? Chimpanzees (*Pan troglodyte*) in the Cross River National Park, Nigeria. *Photo: E. Eniang*

The area is under increasing threat from a rapidly expanding human population. Almost all the large intact forests in West Africa have been lost to the extent that northern graziers are now coming down to the rainforest zone to find resources for their stock. They cause great destruction and even traditional conservation strategies are being disrupted. In many communities of the region, for example, taboos on the hunting of gorillas are no long working.

There are grey areas in national policies on the environment. In Nigeria there is friction between ministries, even in the interpretation of environmental laws. Enforcing such laws is sometimes difficult because one agency frustrates the efforts of others. There is a great deal of cross-border trading in forest products. Timber is floated down the rivers and the poaching of animals and trafficking of bushmeat are widespread. Large quantities of NTFPs, such as *Gnetum africanum,* are imported from Cameroon into Nigeria, which has a large market for forest produce.

A transboundary approach could help address such problems. Co-financing and cooperation between the two countries, and international assistance, are urgently required.

Managing Mayombe

A new project aims to foster transboundary cooperation in the management of the Mayombe forest

by Agostinho Chicaia

Regional coordinator, Mayombe project

Brazzaville, Republic of Congo

Flying the flag: The Angolan flag flies over part of the Mayombe forest. *Photo: T. Ron*

The Mayombe forest is shared between the Democratic Republic of the Congo, Angola, the Republic of the Congo and Gabon and forms the southwestern limit of the Congo Basin's tropical rainforest. It is home to a large variety of flora and fauna, including species of global importance such as chimpanzees, lowland gorillas and forest elephants. But it is also threatened by deforestation and, in some countries, an alarming rate of degradation. Sub-regional cooperation is urgently required in order to implement policies that will halt the deforestation and degradation processes.

Photo: A. Chicaia

The Mayombe forest transboundary initiative was launched in April 2009 with the long-term objective of establishing a transboundary protected area and a regional cooperation mechanism for its management; the ultimate goal is to enhance natural resource conservation and ensure community welfare in the region. The initiative, which initially is being undertaken in the Republic of the Congo, the Democratic Republic of the Congo and Angola, will adopt a step-by-step approach that will include a feasibility study, stakeholder meetings and the establishment of a basis for firm cooperation between governments and all key actors.

The challenge of achieving both economic development and biodiversity conservation goals in the landscape and transboundary setting of the Mayombe forest requires the engagement and support of local communities. Such support will only be secured by addressing livelihood development goals, which include not only income improvement but also the recognition of local identity, traditional knowledge rights, effective participation, and secure rights over land and natural resources and their sustainable use. Transboundary conservation represents an important means to coordinate the individual efforts of countries and an opportunity to strengthening local and national institutions.

The Mayombe forest has a large carbon stock and there is good potential to participate in international mechanisms such as REDD. We need to facilitate local commitment in this endeavour, which requires demonstrating to local people that the conservation of globally significant resources such as carbon will benefit them. We think that the more we help the poor to improve their lives, the more we will conserve the forest.

Going the distance

A long-running initiative on the border between Malaysia and Indonesia has improved conservation and assisted community development

by Paul Chai

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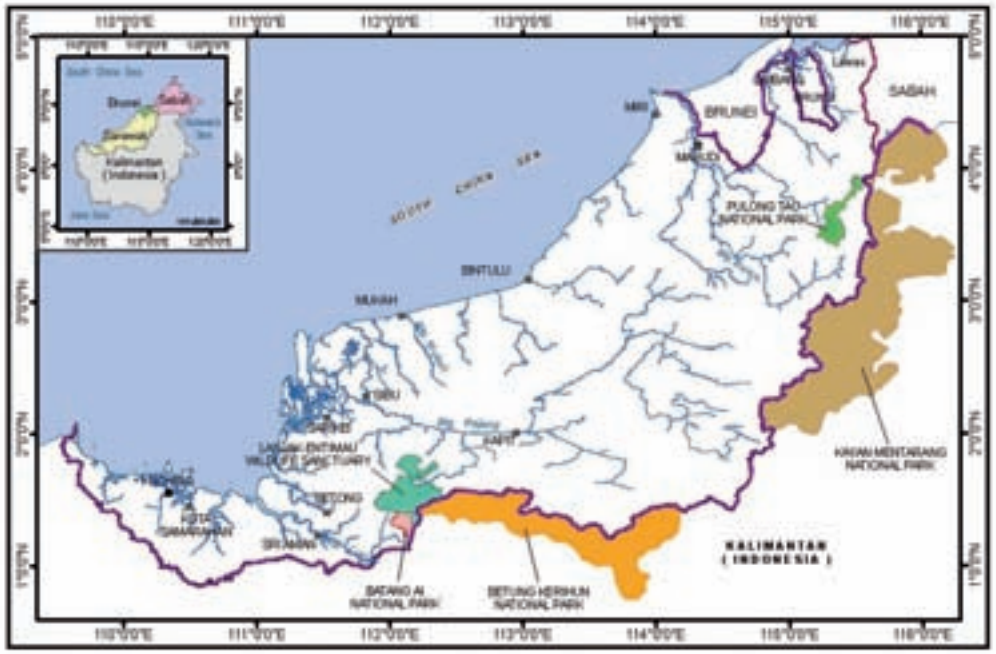

Sarawak, in Borneo, is the largest of the 13 Malaysian states. Over 60% of its total land area (12.4 million hectares) is forested. In 1992, ITTO financed a biodiversity conservation project to assist in the development of the Lanjak-Entimau Wildlife Sanctuary as a totally protected area. In 1994, Sarawak partnered with Indonesia to establish the first TBCA in the wet tropics —comprising the Lanjak-Entimau Wildlife Sanctuary in Sarawak and the Betung Kerihun National Park in West Kalimantan over an area of 1.2 million hectares (see map). ITTO is now also supporting a transboundary biodiversity conservation project in northern Sarawak featuring Sarawak's Pulong Tau National Park and Indonesia's Kayan Mentarang National Park.

Perhaps the most significant conservation aspect of the Lanjak-Entimau/Betung Kerihun TBCA is the presence of about 4000 orang utan (*Pongo pygmaeus*), a highly endangered species. The area faces a number of management issues, including illegal logging, the dependence of local communities on the forests for their livelihoods, plantation development, and the collection and trade of protected species. Management challenges include the difficulty of accessing the area, a lack of infrastructure, and weak management capacity within the local communities.

Nevertheless, as a result of project work over a long period, the communities living near the sanctuary are reducing their dependence on forests as they develop livelihood activities such as fish-farming and the cultivation of local fruits. Increasingly, members of the local communities are volunteering as rangers because the benefits of maintaining a healthy, pristine forest reserve near their villages are becoming more apparent.

Lessons learned

In practice, the Lanjak-Entimau/Betung Kerihun TBCA is managed across the international boundary collaboratively rather than jointly, due to differences in socioeconomic, political, legal and institutional frameworks, priorities, and implementation capacity. Nevertheless, such a long-running project has yielded many lessons that may be helpful for other initiatives, including the following:

- A transboundary approach can help to promote biodiversity conservation, benefit-sharing, livelihood improvement and climate-change mitigation.
- To be effective, transboundary conservation requires a long time frame; continued senior-level political interest and understanding of the process is crucial.
- Implementation capacity determines the work that actually gets done. We need people who understand the problems and needs of the local people and who are passionate, energetic and prepared to go to the field.
- Successful community-based development requires effective leadership and cooperation within the communities.
- Conservation threats can be tackled through stakeholder cooperation and awareness-raising. It is an ongoing process: we are still promoting awareness among local people.
- Continued international support will help promote long-term conservation goals: this is critical, not just for funding but to encourage political leaders to take it seriously.

Concrete action: Longhouse members work with project staff to construct a valley pond. *Photo: S. Lanjang*

Sustainability

The fourth phase of the ITTO project for the development of Lanjak-Entimau is drawing to a close and the question of sustainability is being raised. We will be able to secure our own national funding when a new community development division under the Forest Department is formed in October this year. In Sarawak there are private companies that would like to give money, but there is no mechanism by which this can take place. Another key element in the sustainability of the sanctuary is the maintenance of a reliable and competent management team. We should also promote international research in the area, because the results of the research will help to sustain the management of the area. In my view we should also continue collaboration with international agencies such as ITTO to ensure that we benefit from experiences elsewhere, and to help to maintain a collaborative transboundary approach. Involvement in the Heart of Borneo initiative is also desirable as a venue for promoting conservation within the TBCAs, and greater effort is needed to involve private enterprises, including the timber industry, in such initiatives.

Budding horticulturalists: Community members receive training on plant budding. *Photo: M. Jandom*

Sustainability depends on the continuing political and financial commitment of host countries and external support from international organizations like ITTO and IUCN. The Government of Sarawak has put in place a strategy for raising the profile of TBCAs and promoting scientific research locally, regionally and internationally. It also needs to develop a mechanism for receiving and managing external financing, and to strengthen its institutional framework for the long-term management of TBCAs.

Deepening relationships: Officers from the adjoining Betung Kerihun National Park in Indonesia visit the Lanjak-Entimau Wildlife Sanctuary to exchange information and view local infrastructure, such as this valley pond. *Photo: W. Cluny*

Sacred pact

China, India and Nepal are considering a plan for the coordinated management of the proposed Kailash Sacred Landscape

by Bandana Shakya, Robert Zomer, Eklabya Sharma and Krishna P. Oli

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The source: The region gives rise to four of Asia's great rivers; Mount Kailash can be seen in the background. *Photo: R. Zomer*

The proposed Kailash Sacred Landscape (KSL) is shared by three countries—China, India and Nepal—and comprises the remote southwestern portion of the Tibetan Autonomous Region of China and adjacent parts of northwestern Nepal and northern India (see map). The highly diverse and environmentally fragile landscape contains a broad array of bioclimatic zones, rich natural and cultural resources, and a wide range of forest types. It provides essential habitat for large numbers of endemic and endangered species, including large charismatic mammals such as the snow leopard, which are under acute pressure from environmental change and human activities.

The importance of the KSL

The KSL has huge cultural importance: tens of thousands of Buddhist and Hindu pilgrims journey to Mount Kailash every year from India, Nepal and the Tibetan Plateau and other parts of China. It is also increasingly important for tourism: by the end of the decade, for example, Tibet is expecting about 3 million visitors per year.

The KSL has a highly diverse array of endemic species and biomes, including many rare and endangered species, medicinal plants and important bird-breeding areas. It is the source of four of Asia's great rivers—the Indus, the Brahmaputra, the Karnali and the Sutlej.

Sacred territory

Transboundary complexes in the Himalaya, including the proposed Kailash Sacred Landscape

The benefits of transboundary

There is a clear rationale for increased transboundary cooperation in the management of the area. Under predicted climate change, melting glaciers and drying wetlands could have significant impacts on the hydrological and climatic regimes, the ranges of native species and livestock, the cropping cycle, and the incidence of pests, pathogens and invasive species. Transboundary cooperation could help to alleviate at least some of these impacts.

There is also a risk that the over-extraction of medicinal plants and other timber and non-timber forest products, partly to feed an illegal cross-border trade, could lead to the loss of entire forest ecosystems as well as wild genetic resources important for agrobiodiversity. Transboundary cooperation could help to ensure that the harvesting of such products, and their trade, is done on a sustainable basis. The development of the tourism sector would also benefit from transboundary cooperation—to minimize the unnecessary duplication of infrastructure and to increase the attractiveness of the border region as a tourism destination.

Part of the landscape: Villages and households depend heavily on the area's natural resources. *Photo: R. Zomer*

The KSL Conservation Initiative

The KSL Conservation Initiative was launched in August 2009 to facilitate transboundary ecosystem management approaches for biodiversity conservation and sustainable development through regional cooperation. It is a collaborative effort led by the International Centre for Integrated Mountain Development (ICIMOD), the United Nations Environment Programme, and regional partners in China, India, and Nepal—ministries and/or government agencies, universities and research institutes, and local NGOs and community-based organizations.

The ambitious aim of the initiative is to promote transboundary biodiversity and cultural conservation, ecosystem management, sustainable development and climate-change adaptation through a regional cooperation framework. The basic principles of the framework, which will be signed by the three countries in 2011, are participatory management, equitability, sustainability, partnerships, ecosystem management, a lessons-learnt approach and transboundary cooperation.

A hard life: Rocky terrain, prayer flags and threatened biodiversity are all integral parts of the Kailash landscape. *Photo: R. Zomer*

A phased approach

The KSL Conservation Initiative is a long-term project, with four phases planned to 2023. The specific objectives of the first, preparatory phase are to enhance cooperation among the regional member countries and to facilitate coordination among the actors and stakeholders.

The first step in bringing the three countries together was a feasibility assessment. It began with a tentative outline of the area. Using common data sets and georeferencing tools, each country then delineated the boundary of the landscape within its territory. The three boundaries were merged to produce a contiguous landscape boundary for the KSL. Delineated in this way, the KSL covers 3.1 million hectares, 42% in Nepal, 23% in India and 35% in China. The feasibility assessment also included a socioeconomic assessment, a policy review and the identification of conservation needs and gaps. We are now starting work on a conservation strategy, which will form the basis of future activities in the landscape aimed at biodiversity conservation. A comprehensive, long-term environmental monitoring plan will also be developed.

A conservation jewel

An ITTO project is boosting cooperation in the Emerald Triangle, but more is needed

by Suchat Kalyawongsa[1] and Sothea Hort[2]

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Green and hot: The Emerald Triangle Protected Forests Complex, shared by Thailand, Cambodia and Laos, is part of the Indo-Burma biodiversity hotspot. *Photo: E. Mueller/ITTO*

The Emerald Triangle Protected Forests Complex, which is shared by Thailand, Cambodia and Laos, is part of the Indo-Burma biodiversity hotspot, one of 25 biodiversity hotspots worldwide. The area is home to more than 100 mammal species, about 250 species of birds, 60 species of reptiles and numerous species of amphibians. The Asian Development Bank has classified it as a part of nine high-priority biodiversity conservation corridors in the Greater Mekong Sub-region.

The table lists the reserves that comprise the Emerald Triangle—totalling nearly 500 000 hectares—and the map shows their locations. On the Thai side, 55 000 people live in or near the complex.

Complex system

Reserves comprising the Emerald Triangle Protected Forests Complex

Reserve	Area (hectares)
Pha Taem National Park (Thailand)	35 300
Kaengtana National Park (Thailand)	8 400
Phu Jong Na Yoi National Park (Thailand)	69 700
Yot Dom Wildlife Sanctuary (Thailand)	23 500
Buntrik-Yot Mon Wildlife Sanctuary (Thailand)	36 500
Phou Xieng Thong NPA (Laos)	120 000
Preah Vihear Protected Forest (Cambodia)	190 000
Total	483 400

In 2001 an ITTO-funded project commenced on the Thai side to improve the management of the Pha Taem Protected Forests Complex (PPFC). The objectives were to initiate transboundary cooperation and to develop a management planning process.

Why transboundary conservation? One of the biggest threats to biodiversity in the area is the illegal trade of endangered species. Moreover, habitats are under threat from agricultural encroachment (including, on the Thai side, rubber plantations); a regional approach can help to maintain sufficient habitat at the regional scale for the conservation of the area's many important species (see box).

By the end of the project, Cambodia was showing interest in participating in the initiative, although Laos (not an ITTO member) was reluctant. A joint proposal between Cambodia and Laos was developed for a second phase of the project, which was subsequently approved and funded and is now being implemented.

Phase 2 of the project has three objectives:

Objective 1 is to strengthen cooperation between the three countries. To this end, project steering committee meetings and joint taskforce meetings have been held between the two countries and there has also been an exchange of wildlife and habitat data. Informal discussions with Laotian authorities and field managers are ongoing.

Objective 2 is to enhance protection measures and the monitoring of the Complex's biological resources. On the Thai side, a number of studies on wildlife, vegetation, human communities and mapping have been conducted. In Cambodia, meetings were held with local authorities and relevant stakeholders to facilitate law enforcement and biodiversity conservation in the Preah Vihear Protected Forest. Preah Vihear has considerable cultural and natural values—for example, 17 sites of ancient temples have been identified. The forest provides habitat for 56 mammal species, including endangered species such as the elephant,

String of jewels

The Emerald Triangle Protected Forests Complex

banteng and leopard and at least five critically endangered species of bird.

A management plan has been developed and endorsed by the Forest Authority there; this complements the management plan developed in Phase 1 for the Thai component of the Complex. A park headquarters was constructed; it was opened in May 2010 by the director-general of the Forest Authority and the provincial governor.

Objective 3 is to strengthen the involvement of local communities in the protection of the area and also in the development of alternative livelihood strategies. Awareness-raising activities have involved about 400 people from a range of stakeholder groups. Training in intensive agriculture as well as ecotourism has been conducted in six pilot villages and a micro-credit facility has been established.

The Emerald Triangle Protected Forest Complex is in the early stages of establishment as a TBCA; we are still at the 'low-level' coordination stage on the continuum presented by James Gasana (see page 7). There are many constraints. Laos remains reluctant to join the process, which reduces the scope for transboundary activities. Border tension between Thailand and Cambodia in 2008 affected transboundary efforts, although the process survived thanks largely to the excellent communication that had already been established at the technical level. More time and resources are needed to ensure that nascent rural enterprises can stand on their own; a proposal for a third phase of the project was recently submitted to ITTO *(Editor's note: this was recently funded as reported in Editorial)*.

Among the lessons that have been learned so far are the following:

- Transboundary conservation requires the full support of governments—political will is the most important ingredient.
- The problems and constraints, and the capacity to deal with these, vary between countries, and this asymmetry must be taken into account in the design of TBCA projects and processes.
- The full participation of key stakeholders, and the development of livelihood alternatives in local communities, are essential for success.
- A TBCA process takes time and long-term technical and financial support. Those involved in such processes must be prepared to stick with it over the long term.

Looking ahead

by Yongyut Trisurat[1] and James Gasana[2]

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In recent years the Emerald Triangle Protected Forests Complex has come under increasing pressure from encroachment for agriculture and a growing international trade in plants and animals across the tri-national borders. A dynamic model of land-use change (Dyna-CLUE) and a wildlife habitat model were used to predict land-use change in the Thai component of the Complex—the PPFC—and to quantify the consequences of land-use change for biodiversity conservation in the area, under various land allocation scenarios to 2030.

Three scenarios were explored and the following predictive results were obtained:

1. A 'trend' scenario, under which current patterns of land-use change continue, with a decline in forest cover in the PPFC from 45% to 37% and a doubling in the area of rubber plantations and encroachment of the protected areas. Significant deforestation occurs in the buffer zone, two national parks and a proposed wildlife sanctuary.
2. An 'integrated land use' scenario, under which the total forest cover of the PPFC is maintained at 40% of the total land area, the area of rubber plantation increases by 70%, and encroachment (and deforestation) is prevented in four of the five protected areas.
3. A 'conservation-oriented land use' scenario, where PPFC forest cover is maintained at 40% of the total land area, the area of rubber plantation increases by 35%, and encroachment (and deforestation) is prevented in the five protected areas.

Under all scenarios there is a significant loss of forest in the buffer zone, with a corresponding loss of habitat for key wildlife species. The viability of biodiversity in the Emerald Triangle will depend, therefore, on the maintenance of habitat within the protected areas of the Complex. This, in turn, will depend, to a significant extent, on the effectiveness of cooperation between the three countries in maintaining intact forest, harmonizing protection measures, optimizing land allocation, and increasing livelihood opportunities for local people residing inside protected areas and the buffer zone.

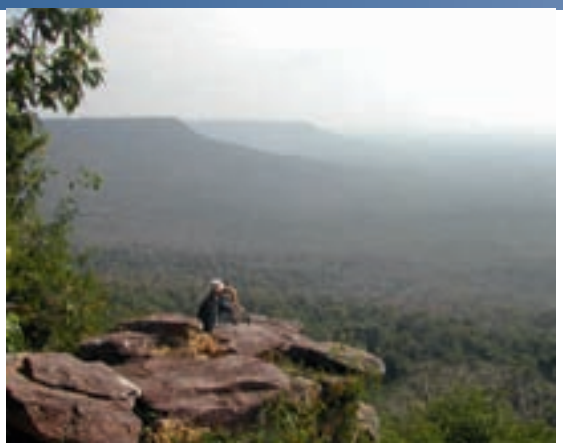
A guide to TBCAs

ASEAN is developing guidelines for transboundary conservation

by Bruce Jefferies

Deputy Vice Chair, IUCN World Commission on Protected Areas

Auckland, New Zealand



Big view, complex issues: Tourists enjoy the view over Thailand's Ta Phraya National Park on the border with Cambodia. TBCA managers are often inexperienced and under-resourced, but they are expected to contribute to and implement plans for complex biological, social and economic interventions.
Photo: B. Jefferies

Transboundary conservation manifests itself in a variety of forms depending on the national, regional, cultural, political, economic and institutional contexts as well as the objectives of a transboundary initiative. Nevertheless, there are also many commonalities between TBCAs, and, if managers can be encouraged to think laterally and outside the square, the lessons learned in one context can often be adapted and applied elsewhere.

It is easy to underestimate the complexity of the task faced by the managers of protected areas in general and TBCAs in particular. They are often inexperienced and under-resourced, but they are expected to contribute to and implement plans for complex biological, social and economic interventions. We need to put tools at their disposal that make it easier for them to do their jobs.

In 2008, therefore, the nine countries of the Association of South East Asian Nations (ASEAN) initiated a process managed by the ASEAN Centre for Biodiversity (ACB) to develop guidelines that would provide practical and realistic guidance on the planning, establishment, management, monitoring and evaluation of TBCAs in the ASEAN region.

In the draft guidelines, potential management actions are divided into three categories: formative actions; delivery actions; and cross-cutting actions.

Formative actions include:

- undertaking feasibility and scoping studies
- establishing a shared vision
- undertaking preplanning
- establishing governance and administration
- establishing strategic management priorities and requirements.

Delivery actions include:

- managing finances, human resources and assets
- site management
- providing and managing research opportunities.

Working and communicating with partners and stakeholders can be considered to be a cross-cutting action.

Each action is addressed in the draft in tabular form—management action, description and notes. The table presents examples of the sorts of management actions that might be associated with feasibility and scoping studies.

Context

Examples of possible management actions, TBCA feasibility and scoping studies

Management actions	Description	Notes and other considerations
Understanding context		
Identify and document the key natural, social and managerial contexts of the area(s) considered suitable for the TBCA project. Develop and apply participatory biodiversity assessment methods. Specific question(s) that this step will address include: "What important biodiversity targets are we trying to conserve or restore?"	Undertake literature reviews; interviews with key informants and stakeholders; and primary data-gathering to identify the important context topics and to develop a working knowledge and understanding of them.	Topics likely to be important include: – the distribution, requirements and threats to significant animal and plant species and ecosystems – identifying the significance, values and needs of a TBCA – international status – current land uses, tenures and governance arrangements – socioeconomic and cultural conditions, values, concerns and aspirations of people living in and around the TBCA. Spend time field checking and verifying information.

The guidelines are still in draft form. On the basis of comments received from participants at a workshop help in Luang Prabang, Laos, in 2009, a revised draft will be produced by ACB, which will then be submitted to the focal or lead agencies in each ASEAN country. Those agencies will discuss the draft with stakeholders and provide input, which will be returned to ACB for compilation and further revision.

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The sub-continental search for TBCAs

India has taken a systematic approach to identifying and prioritizing TBCAs

by Vinod B. Mathur

Dean, Wildlife Institute of India

Dehradun, India

TBCAs take many forms, such as:

- two or more contiguous protected areas across a national boundary (Type 1)
- a cluster of protected areas and the intervening land (Type 2)
- a cluster of protected areas without intervening land (Type 3)
- a trans-border area including proposed protected areas (Type 4)
- a protected area in one country aided by sympathetic land use over the border (Type 5).

To date, India has established a network of 662 protected areas. We looked at all of them to identify the potential for creating TBCAs (Anon. 2008). India has many next-door neighbours: there is potential to form TBCAs with Nepal, Bhutan, Bangladesh, Myanmar, Pakistan and China. Twenty-one of India's protected areas lie along or adjacent to the Indian border and could be considered for declaration as TBCAs. Of those, eight can be categorized as Type 1, four as Type 3 and nine as Type 5.

To decide which ones were most suited to a transboundary initiative we conducted a process of prioritization using five ecological criteria and 24 indicators. The five criteria were:

- ecosystem resilience—size, connectivity and threat (five indicators)
- life-support systems—ecosystem services provided by the systems (five indicators)
- unique biodiversity—the number of species of conservation concern and ecosystems vested with endemicity, rarity and representativeness (eight indicators)
- protected areas with entities of cultural, aesthetic and religious significance (four indicators)
- economic potential—in the context of specific resources to be conserved (two indicators).

For each indicator, threshold values and weightings were assigned. We also looked at the number of ecosystems that were represented. From the resulting assessment, the 21 candidates were reduced to twelve, in order of priority (Table 1). The next step was to look at geopolitical considerations, and for this we sought opinion from relevant ministries. From this process a set of seven candidates was selected for initial TBCA implementation (Table 2).

The framework for implementing these TBCAs is based on best-practice, including the following elements:

- identifying and promoting common values
- involving and benefiting local people
- obtaining and maintaining the support of decision-makers
- promoting coordinated and cooperative activities
- achieving coordinated planning and protected-area development
- developing cooperative agreements
- working towards funding sustainability
- monitoring and assessing progress
- dealing with tension or armed conflicts.

High-priority dozen

Table 1: Twelve high-priority candidates for TBCA approaches

Site	Ecosystem	Neighbouring country	Ranking
Dibang	Mountain	China	1
Kanchandzonga	Mountain	Bhutan	2
Changthang	Mountain	China	3
Buxa	Forest	Bhutan	4
Manas	Forest	Bhutan	4
Valmiki	Forest	Nepal	5
Sunderbans	Mangrove	Bangladesh	6
Dudwa	Forest	Nepal	7
Katerniaghat	Forest	Nepal	8
Karakoram	Mountain	Pakistan	9
Deserts	Desert	Pakistan	10
Deserts WLS	Desert	Pakistan	10

Magnificent seven

Table 2: Seven sites selected for initial TBCA implementation

Site	Ecosystem	Neighbouring country
Kanchandzonga	Mountain	Bhutan
Buxa	Forest	Bhutan
Manas	Forest	Bhutan
Valmiki	Forest	Nepal
Dudwa	Forest	Nepal
Katerniaghat	Forest	Nepal
Sunderbans	Mangrove	Bangladesh

India has adopted a pragmatic approach that includes obtaining high-level policy agreements among governments through memoranda of understanding covering a range of biological, economic, social and political aspects. This is complemented by a 'bottom-up' process for improving cooperation at the ground level, such as by organizing cross-border meetings at the park level, especially with Nepal and Bhutan.

Reference

Anon. (2008). *A Proposal for the Identification of Potential Transboundary Protected Areas of India.* Wildlife Institute of India, Dehradun, India.

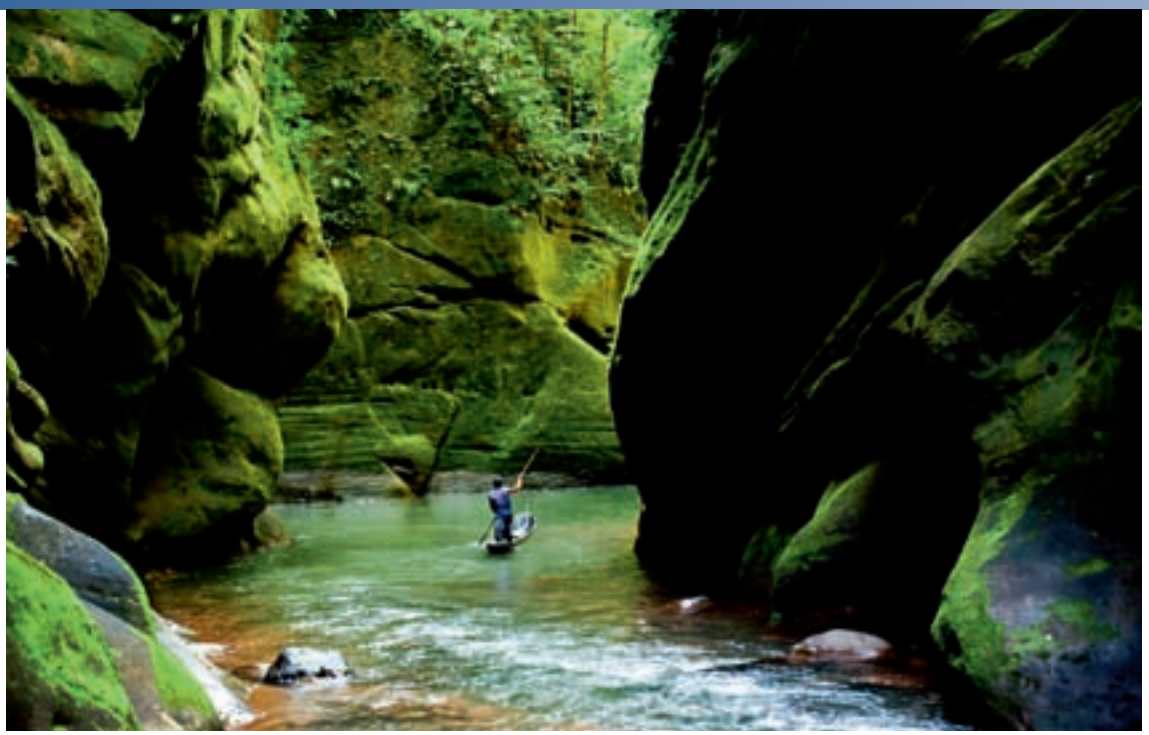
Cooperation in the Condor

Families have been reunited and conflict between Ecuador and Peru has turned to cooperation

by Santiago Kingman

Fundacion Natura

Quito, Ecuador



Going with the flow: The Wampis became riverine people, maintaining a high dependency on the forest. *Photo: N. Kingman*

The area in which the Cordillera Condor TBCA has been established was the location of a long-running territorial dispute between Ecuador and Peru, including two small but violent military confrontations. After the most recent of these, a process of dialogue and negotiation was initiated, which culminated in an agreement in 1998. Two small peace parks were established of major symbolic importance; these became the basis for an expansion of conservation and development activities in the area.

The Condor's importance

The Condor Mountain Range is part of a set of sub-Andean cordilleras (Figure 1). The region is especially important for its biodiversity because of the high levels of endemism. Moreover, it is an important conduit for the movement of species between the Andes and the Amazon—it is a site of transition and genetic exchange.

The wide variety of geological formations supports the presence of a very rich plant diversity—probably more than 4000 vascular species. There are also more than 600 species of birds and 142 species of mammals.

There are rich Indigenous cultures in the region that share the same language roots. In the last 500 years the Shuar have spread over an extensive area of the Condor region, with part of the population moving, in the 20th century, to the lower areas of what is now Peru. However, a conflict between Peru and Ecuador caused a drastic division of family and cultural relations within the Shuar that, since then, has led to differing cultural development between them. In effect, the Condor was cut in half. The Shuar in Ecuador turned to farming and ranching to make money; there was a weakening of knowledge about and dependency on the forest. They remained in the mountains, while the Wampis (which is the name given to the Shuar in Peru) became a riverine people, maintaining a high dependency on the forest.

From conflict to conservation

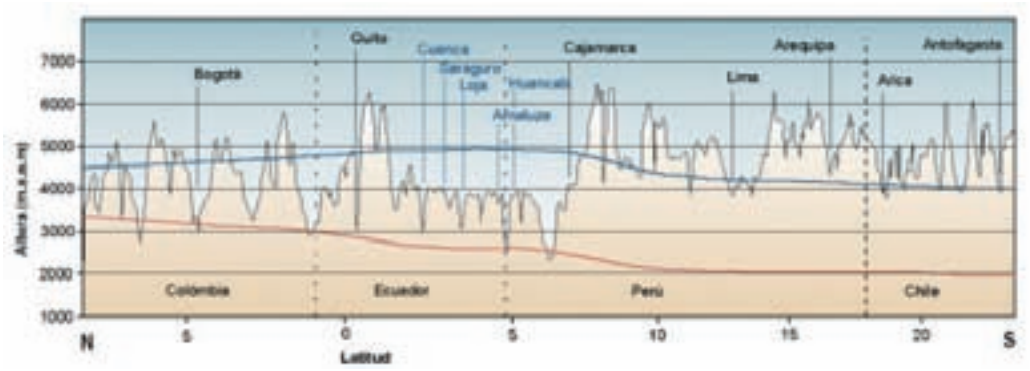
With the support of ITTO since 2000, projects have promoted the conservation of the area's natural resources. In Peru, a national park was created (88 500 hectares) and the Wampis communities gained legal control of lands and natural resources (100 000 hectares). In Ecuador, 1000 families in 45 Shuar communities forged their collective lands into a single territory (200 000 hectares) for conservation and wise use, which they now govern. In addition, the Government of Ecuador declared three new protected areas (31 000 hectares). The region is thus an integrated unit of state protected areas and Indigenous community territories where the emphasis is on the conservation of its natural resources.

The creation of the protected areas and peace parks has led to major changes in both the local communities and the governments. The national governments realized that to achieve their conservation goals a multidimensional political space was needed for negotiation and cooperation. For local Indigenous peoples, the political space created by the initiative helped them to organize themselves. It triggered the bi-national integration of previously separated communities and empowered them to gain greater control over the resources, including in areas previously subject to mining concessions (in Ecuador).

The initiative required an agreement between the two governments for coordinated and complementary

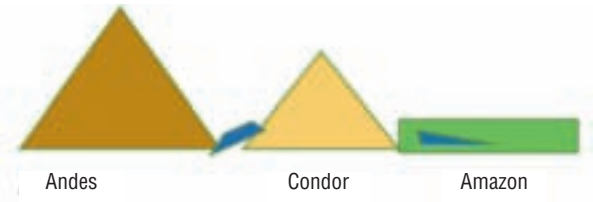
The Condor conduit 1

Figure 1: Topographic profile of the Andes, showing the Condor



The Condor conduit 2

Figure 2: The Condor connects the Andes and the Amazon, facilitating the flow of genetic material between the two biomes



management. The presence of Conservation International made it possible to generate and sustain interest in the initiative and its integration into national policies on both sides of the border. A development model has been pursued based on the commercial marketing of environmental services and sustainable production, as well as supporting the sustainability of the local culture and forest dependency of Shuar and Wampis families in both countries.

Reversing negative trends

This process has reversed a trend towards the deterioration of the environment and local communities towards one where a number of indicators are improving, including community health. Under community monitoring systems and management plans there has been a significant decrease in deforestation in the area, and local hunting and fishing are more productive and more sustainable. The process of impoverishment has also abated, not only in terms of income earned but also in regards to the sustainability of integrated models in which the forest plays a pivotal role. The relationship between the Shuar and Wampis has been rehabilitated: families once separated by the international border are now able to meet, and both support an integration policy agenda that is negotiated with the governments of the two countries.

Serene: The Santiago River, Condor Range. *Photo: D. Ducoin*

Focus: A Wampis fisher weaves a net. *Photo: N. Kingman*

As the TBCA proceeds, there are three main fears: the fear that large-scale and (illegal) small-scale mining could cause major environmental damage; the hardly justified fear of local governments and some national authorities that Indigenous communities might expect to become independent countries; and the fear that the border will continue to be militarized, thus limiting bi-national integration at the local level.

The Amazon Cooperation Treaty Organization

The Amazon Cooperation Treaty Organization (ACTO) was formed in 1978 with the aim of promoting sustainable development in the Amazon Basin. It brings together the eight countries of the Basin, six of which are megadiverse countries. In 2009, member countries issued the Manaus Declaration, in which they agreed, among other things, to:

- Endow ACTO with a new and modern role as a cooperation, exchange, knowledge and joint visibility forum to face the new and complex international challenges that lie ahead.
- Build an integral regional Amazonian cooperation vision that incorporates economics, environment, health, Indigenous and tribal peoples, education, science and technology, water resources, infrastructure, commercial navigation and facilitation thereof, tourism and communications, with a view to promoting the harmonious and sustainable development of their respective Amazonian spaces.
- Identify actions to reduce and monitor deforestation, favour sustainable forest resource management, and implement urgent measures to ensure biodiversity conservation and preservation, focusing on economic, rational and sustainable use and including the search for mechanisms that support and create funding strategies to conserve and protect the forests.
- Protect, manage and preserve the region's water resources to ensure the health of the fluvial ecosystem.

Adapted from a Powerpoint presentation by Antonio Matamoros, Amazon Cooperation Treaty Organization.

Individuals driving change

Park managers have united across borders to initiate a cooperation process

by Angel Onofa

Ministry of the Environment
Quito, Ecuador

Photo: A. Onofa

In 2005 we began a tri-national process to develop a conservation corridor comprising the La Paya Natural National Park (Colombia), the Gueppí Reserved Zone (Peru) and the Cuyabeno Fauna Reserve (Ecuador).

The idea was born at a 2005 meeting of protected-area managers who are members of the Protected Areas Network of the Americas (RANPA). We had time in the evening to think about what we needed to do in our protected areas and that's where it started. We agreed that these protected areas all faced common threats along their international borders, including illegal logging, wildlife and timber trafficking, and the over-exploitation of aquatic resources.

Combined, the three reserves contain 1.8 million hectares of tropical forest, most of which is in good condition. The forest is rich in extraordinary biodiversity, including aquatic mammals such as otters, dolphins and manatí and a huge variety of fish, turtles and lizards. We also have human communities—ancestral communities as well as settlers—so there is heavy use of the biodiversity.

We are lucky that the idea of tri-national cooperation has been heard by national and international stakeholders and welcomed by them. Consequently, resources have been made available for a process that brought the regional protected-area managers together. It was driven by a need for joint action to deal with threats to the protected areas along the borders between our countries, to improve the management of the biodiversity, and to seek agreements with local Indigenous communities on the management of the resources.

It is a process driven at the ground level—the heads of area are working in the field. The key to the process, at least in the beginning, was the enthusiasm and like-mindedness of the people involved and the strong desire to work cooperatively. If each of us worked separately it would be much more difficult to do what we need to do. Of course, people move on, but a few of us are still here and others come in and bring new ideas.

The basic purpose of the program is to develop a model for regional sustainable development based on regional and transborder coordination. It is difficult to put into practice. Where do we start?

We decided on the following five lines of action:

- To strengthen inter-institutional coordination with the aim of improving regional development and the conservation and sustainable use of the natural resources in the Güeppí-Cuyabeno-La Paya corridor.
- To strengthen institutions by increasing the administrative, technical and financial capacity of those bodies responsible for natural resource management and conservation in the region.
- To generate baseline sociocultural and environmental knowledge in the Güeppí-Cuyabeno-La Paya corridor to facilitate effective decision-making on its conservation and sustainable use.
- To reduce the pressures on and threats to the area through a joint strategy of control and monitoring.
- To strengthen community organizations and to create agreements with those organizations on conservation and sustainable use.

A memorandum of understanding has been signed by the three countries. There is a tri-national management committee and a secretariat dedicated to consolidating and harmonizing efforts. The situations differ in the three countries but there are also many issues in common. From the beginning we have known that local participation is essential, but it is also necessary to improve institutional links at the national and international levels. Ultimately, our aim is to develop a master plan for the region.

This is an important time for us. It is a time to share; we have made mistakes and we have to learn from them. We need more resources to fully develop the program: we invite interest from any organization or individual who may be able to contribute.

Conference participants discussed the political, socioeconomic and financial dimensions of TBCAs with a panel of experts

Eduardo Mansur: From today's presentations, the following points struck me as innovative, creative and informative.

1. There is a need to recognize the role of local communities, especially farmers and Indigenous groups. Without local participation, TBCAs will fail. In that regard I was pleased to hear about the Government of Ecuador's *Sociobosque* program, which is supported by NGOs and has the deep involvement of Indigenous people.
2. From Trevor's presentation we learnt that 85% of the world's terrestrial carbon is outside protected areas. The figure is the same, or higher, for tropical biodiversity. These are two good reasons for us to think beyond protected areas. Protected areas are important, but so are areas managed sustainably for production.
3. To ensure that forests have value to local people, there is a great need to recognize and value the ecosystem services of forests and to secure payments for those services.
4. The monitoring of TBCA objectives is gaining new momentum, and new technologies are great assisting in this.
5. No one size fits all; there is no blueprint approach to TBCAs. A correct appraisal is needed.

It is clear to me that while governments are often quite committed to TBCAs, at least in principle, the funding for those commitments is still insufficient. Many years ago I was lucky enough to speak with the president of Costa Rica and, even then, he was talking about the importance of biodiversity for the future of the country. That sort of vision is still lacking in many countries. So we need greater commitment.

Sarat Gidda: An approach to biodiversity conservation that relies on isolated biodiversity hotspots is not viable in the long run. We need connectivity, we need the transboundary movement. We also need sustainable forms of financing. There are many questions. How much money is needed? How are we using the existing money? We need to do our homework by undertaking needs assessments and developing a sustainable financial plan. How do we make it sustainable? Most of the time the available funding is not aligned with implementation. The capacity and technical support are not aligned. Therefore things are done in a piecemeal matter. My suggestion is: be very clear on problem identification. What do we want to do, and how will we do it? Then we have to deliver. When you make a commitment you have to deliver.

Saleem Ali: It was heartening to see the Minister of Environment here this morning. She was sitting next to a senior official from Peru. A decade ago these two countries were embroiled in a conflict. So it was heartening to see high-level interest in this conference and in the concept of TBCAs. Generally the presentations were fantastic. I was pleased to see the commonality on governance and community participation, and I am very excited about the prospects for the greater involvement of ITTO and CBD. Because of its size and scope, ITTO has the flexibility to get things done faster than other organizations. All that was positive.

In many international conferences there tends to be an approach of following the money. That was apparent in the emphasis this morning on climate change and carbon. Everything is being seen through that lens. That left me unsettled. Climate change has become vulnerable in the international political arena. I wish it were not so, but the reality is that it is. If you conflate everything with climate change you might constrain your agenda. Use it and capitalize on it, but do not become subservient to it.

Roberto Ulloa: In embarking on a TBCA process, synergies between communities, institutions and organizations should always be sought. This is one of the most difficult but also most satisfying aspects of our work. No one has a recipe—it is important to learn from experience and to apply the lessons learned in other regions.

The approach of Conservation International is to use demonstration projects in the field and to involve communities in the sustainable use and conservation of nature. For some time we have been working on the transboundary approach in biodiversity hotspots—areas that are rich in biodiversity but are also under threat. Essential elements in the TBCA approach include:

- *political support at the highest level*—to work effectively, governments must allow us to work directly with stakeholders
- *a common vision between stakeholders*—different organizations and people work in different ways—so a common vision is very important.

Comment from the floor: It is true that there is no one-size-fits-all approach to transboundary conservation initiatives, but we also need a common language. Forests do not stop at the boundaries of protected areas, so sustainable use is also essential. We should be focusing on land-use planning and environmental planning at a landscape scale, within countries and at the sub-regional level.

Eduardo Mansur: The worst thing we can do is to polarize between protected areas and all the rest. I fully agree with the need for a landscape-scale approach. This is partly why the concept of transboundary conservation is so important.

Comment from the floor: last week I visited two ITTO TBCA projects in the Condor and was very enthusiastic about the progress being made there. What I saw was the Shuar people rebuilding their cultural identity and recovering their ancestral way of life; it is an example at the

international scale that will inspire Indigenous people in other regions.

Roberto Ulloa: In the Condor what we are seeing is a vision of a protected area, a vision of territorial management that is linked to the concept of the corridor. It goes beyond the areas themselves. We are negotiating a third phase of the project with ITTO, but it is important to address financial sustainability.

Comment from the floor: Whether we like it or not, REDD is a game-changer. It's true that the political reality is contested, but REDD is going on, and four billion dollars are on offer. We should be thinking about how we should spend that money. It should not be used to reward inaction. SFM is good on paper but not applied. There is no monitoring. Where is the benefit-sharing in logging? In many cases there is none because promises to communities are not kept. The best way to protect forests is, first and foremost, to solve governance, land tenure and law enforcement and to create sustainable economies, including forest enterprises at the community level, because they are the forest stewards.

Comment from the floor: It is essential to understand that, no matter how great the scientific findings, nothing will happen without political will. There is not enough donor appetite to fix the problems of climate change or biodiversity conservation. It is essential, therefore, to evolve active markets for biodiversity conservation. The market is the key to major change.

Saleem Ali: If you try to reduce the argument to REDD you run a big risk. You might find, for example, that perennial grasses are better at sequestering carbon, and they are low-biodiversity systems. Where will that leave forests? I'm not saying don't find synergies, but your first words were 'there are 4 billion dollars in REDD'—we should not approach it that way.

Eduardo Mansur: The question of using REDD money effectively is part of a larger question on how to give value to the forest so that its conservation is attractive to landholders. Why is there deforestation? Not because the people who do it are evil but because the value of land is higher than the value of forests. We have to give the appropriate value to forests, and REDD—or, more accurately, REDD-plus—is one of several promising opportunities. REDD-plus includes the promotion of conservation, sustainable forest management and enhanced carbon stocks. There is no reason why REDD cannot be applied in TBCAs, but we need to work out ways of working at the regional level.

Comment from the floor: In 2010 we have almost reached the point where the importance of protected areas is properly acknowledged. This is a great arrival point. The fact is, we can now make an economic case for conservation—water, pollination services, etc. I agree that we tend to focus disproportionately on carbon, but the world is facing a calamity and climate change will affect all other values—so unless we address it we will lose everything else. Public funds are not enough, and we have to look at other mechanisms, including markets. We recently surveyed all 20 Latin American countries to find out how much money is needed to finance their protected areas. There is a huge gap between what is needed and what is available, but the full cost is still cheap compared with the alternative of letting those ecosystems degrade. I am convinced that it is cooperation between countries that will unlock these opportunities, and TBCAs are one of the mechanisms we have to address that.

Comment from the floor: The biggest challenge in advocating TBCAs is to be clear on the agenda. In Mexico, the issues that are most important in the bi-national relationship with the United States are security, water, fire and the traffic of weapons and people. Costa Rica's approach to conservation was successful because officials learned to speak the language needed to convince the treasurer to allocate the resources. They convinced him of the economic case.

Comment from the floor: Participatory programs are the keys to continuity in TBCAs because once the communities take ownership they will not be stopped. When the finance goes the stakeholders will continue on.

Comment from the floor: Just a word of caution on the role of the market. You cannot place a price on the priceless. Sometimes the market cannot capture the total value of a forest. The market does have its limits and it will take some time before markets can capture all the value of the forest.

Saleem Ali: I agree there is much that is priceless, but if you don't put a value on it then the world will treat it as valueless.

Conference statement

A message from participants at the International Conference on Biodiversity Conservation in Transboundary Tropical Forests, convened in Quito, Ecuador

24 July 2010

Introduction

Ecosystems do not recognize political boundaries. The rise of potentially devastating global problems such as climate change, water shortages and biodiversity loss means that transboundary cooperation in landscape and ecosystem management has become imperative.

Nowhere is such cooperation more important than in tropical forest ecosystems: they contain, inter alia, a large proportion of the carbon stored in terrestrial ecosystems, an estimated 80% of the world's terrestrial species, and provide essential ecosystem services.

Increasingly, nations in Latin America, Africa and Asia are working together to establish new transboundary conservation areas (TBCAs). There are now dozens of examples of transboundary conservation initiatives in tropical forests covering more than 50 million hectares.

The Cordillera del Condor transboundary conservation initiative between Ecuador and Peru, for example, has helped to improve relationships between governments and Indigenous communities and empowered local Indigenous communities to strengthen their cultural identity, renew cross-border family ties and seek new livelihood opportunities. It has also greatly improved the management of the area's important ecosystems.

Transboundary conservation can act as a catalyst for new approaches to governance in border areas, addressing power imbalances between national and subnational governments and local stakeholders. It can also increase peaceful cooperation in combating global and regional problems such as climate change, land degradation and biodiversity loss.

In addition, TBCAs in tropical forests can help to:

- ensure the supply of drinking water and other critical ecosystem services
- reunite related communities separated by political borders
- strengthen the capacity of the main stakeholders, particularly Indigenous Peoples and local communities
- control the illegal trade of forest products, including the smuggling of wildlife and timber
- resolve borderland political and cultural disputes
- provide opportunities for cross-border learning and information exchange, and recognize the efforts of many Indigenous People and local communities
- resolve conflicts between economic sectors
- reduce poverty and increase human wellbeing, especially in marginal areas far from markets and centres of economic development
- mitigate natural disasters and reduce risks to societies posed by extreme environmental events
- create synergies between management agencies across borders
- sustain species gene pools and provide vital health services to communities through sustaining habitats for medicinal plants.

The International Conference on Biodiversity Conservation in Transboundary Tropical Forests, held in Quito on 21–24 July 2010, reviewed some of the most significant TBCA initiatives in Latin America, Africa and Asia and canvassed the essential elements for their success. It produced a number of key lessons and recommendations, which are set out below.

Key lessons

Governance

There is no single approach to the governance of TBCAs, but power-sharing between different levels of governance should emphasize synergy, cooperation, consensus and the need for the empowerment of civil society and grassroots actors.

There are five pillars of governance in TBCAs:

- *political will*—from national and subnational governments.
- a political vision—to address transboundary issues of shared interest through the coordination of policies, institutions and management.
- *joint structures and synergies*—with clear mandates at national levels, inter-institutional coordination, and stakeholder participation mechanisms that include indigenous communities and municipal authorities.
- *Strengthened capacities in government institutions and among stakeholder groups*—at the national, subnational and local levels.
- *a mixture of financing mechanisms*—funding from national budgets, private, bilateral and multilateral donors, and the private sector, wherever feasible.

TBCAs have catalysed innovations in the governance of natural resources, such as the emergence of local Indigenous governments.

Harmonizing and aligning law-enforcement capacities between countries involved in TBCAs can improve the effectiveness of TBCAs in combating transboundary illegal activities such as poaching and wildlife smuggling. The stronger integration of communities across borders has been shown to be another catalyst for effective law enforcement.

Local participation

Well implemented, TBCA initiatives can greatly increase the participation of people—including Indigenous Peoples and local communities—living in or near a TBCA in the sustainable use and management of natural resources. They can help to reduce tension between the state and local people.

Local people must benefit from the development and management of TBCAs. Benefits may be economic, such as payments for protected environmental services; social, such as the re-connection of previously separated communities across borders; and environmental, such as the conservation of economically or culturally important biodiversity. The equitable sharing of costs and benefits from transboundary conservation is always essential.

Considerable progress has been made in the use of appropriate social and technological tools for TBCA management. Social tools include participatory processes to measure TBCA performance; dialogues between actors (e.g. state, civil society, the private sector and communities) at the level of corridors or TBCAs; training appropriate to the needs of local stakeholders; agreement between actors in a TBCA; and harmonized development agendas on both sides of a political border.

Landscape planning

In general, TBCAs should not be nested in small areas but opened up across large transboundary landscapes and biodiversity corridors. 'Bigger is better' because large areas can ensure natural processes and ecosystem resilience, which in turn ensure forest carbon permanence and the flow of ecosystem services.

TBCAs can catalyse—and be catalysed by—landscape planning approaches, with benefits for biodiversity conservation, economic development and social cohesion. Such planning should be conducted on an inclusive and participatory basis.

Institutions

In many border areas there is not only a complex physical landscape but also a complexity of institutional responsibilities, both within and between countries. The challenge is to build institutional mechanisms that enable cooperation and generate synergies across both international and internal administrative boundaries. There are numerous examples, from all United Nations regions, that such institutional mechanisms benefit all those involved.

Financing

Public funds are insufficient to fully support TBCA programs; other mechanisms and sources are needed. Payments for forest ecosystem services and other conservation incentives are a great new opportunity to promote TBCA management.

Financial plans based on realistic needs assessments can be used by TBCA initiatives to identify the gaps in funding and potential additional financial mechanisms. Such plans can be used as business plans for tapping various funding sources.

TBCA project funding can be used to develop and implement financial mechanisms that will help ensure a sustainable level of financing after project completion.

Climate change

Climate change is a threat to ecosystem resilience, but the growing political will to address it is an opportunity for TBCAs. TBCAs have great potential for climate-change mitigation and adaptation using ecosystem-based approaches. By reducing deforestation, TBCAs can help reduce the rate and mitigate the impacts of climate change. They can also reduce the impacts of climate change by creating synergies, increasing resilience and providing efficiencies.

TBCAs can help guarantee carbon permanence. For example, their potentially very large areas help ensure that ecosystems have sufficient resilience to avoid tipping points (such as Amazon dieback). Strong local ownership of TBCAs, especially through innovative governance arrangements, helps ensure social stability.

Increasing connectivity is an important overall adaptation response to climate change, increasing ecosystem resilience and maintaining essential ecosystem services for communities in adjoining countries.

Monitoring and research

Monitoring is essential for effective TBCA management. Progress in monitoring is being made at the global, regional, national and local levels, thanks in part to the wide availability of new monitoring technologies.

TBCAs can assist in the generation of knowledge by improving the flow of data across borders and encouraging synergies in research, modelling, monitoring and assessment. In turn, this broadens the knowledge base for decision-making and for improved policies and governance.

Researchers need to apply appropriate biological and social science methods for selecting, prioritizing, and financing TBCAs.

Recommendations

All stakeholders should:

- support the draft decision on transboundary protected areas in SBSTTA recommendation XIV/2, which will be before the 10th Conference of the Parties to the Convention on Biological Diversity in Nagoya, Japan, in October 2010. The draft decision

  > 'Urges Parties to actively explore the potentially suitable areas for transboundary protected-area cooperation and by effective means to create an enabling environment for transboundary cooperation in regards to planning and management practices, connectivity as well as to development across national borders'.

- actively promote synergies between the Convention on Biological Diversity, the UN Framework Convention on Climate Change, and the UN Convention on Combating Desertification, at the national and international levels

- where appropriate, invite armed forces to participate in dialogues on the development and management of TBCAs with a view to encouraging them to perceive a role in defending the environmental and cultural values of TBCAs and to respect the landscape connectivity functions of military zones
- showcase the value of biodiversity conservation in TBCAs in achieving developmental objectives (e.g. poverty alleviation and employment generation) and climate-change adaptation and mitigation in order to make an economic case for tapping funding from a variety of sources
- strengthen intersectoral, participatory planning and management mechanisms of transboundary tropical forests and the articulation and harmonization of public policies, and their implementation in shared ecosystems, and/or independent ecosystems
- increase the capacity of TBCAs to adapt to climate change by improving management; exchanging data; technology transfer; and the restoration of natural systems
- work to convince policymakers and stakeholders of the powerful role that TBCAs can play in biodiversity conservation, transboundary cooperation, sustainable development and many other issues
- promote TBCA champions to ensure the global recognition of TBCAs as models for the implementation of the CBD Programme of Work on Protected Areas and as instruments for strengthening the technical regional networks of protected areas
- promote awareness and environmental education among all stakeholders, including local communities, in order to enhance understanding of government policies on forest and ecosystem management
- pursue 'certification of origin' approaches for the forest goods and services produced in TBCAs as a means to add value to such products and to strengthen legal production, where appropriate, in TBCAs
- promote financing mechanisms that promote ecosystem-based approaches to climate change mitigation and adaptation, as well as the adaptation of ecosystems.

Governments should:

- establish transboundary conservation areas, especially, where appropriate, around shared watersheds and river basins
- strengthen institutions for biodiversity conservation to implement collaborative conservation efforts between governments
- support research to acquire good scientific knowledge and to assess the tangible values of biodiversity
- tap funding available in GEF 5 in both the Biodiversity and Climate Change portfolios for the establishment of TBCAs
- prioritize climate-change adaptation and mitigation funding around TBCAs
- encourage private-sector participation in TBCA initiatives through REDD-plus and carbon offset schemes
- include ecosystem-based approaches to climate-change adaptation among financing mechanisms
- recognize that communities can further conservation objectives if their knowledge and capacity are recognized and opportunity is given for them to be involved
- promote regional cooperation, including south–south cooperation, through the exchange of relevant experiences and their dissemination at the political and technical levels
- encourage cooperation with relevant international organizations in order to promote transparency over the allocation and management of international funds for conservation
- ensure that the role of ecosystems and particularly TBCAs in climate-change adaptation and mitigation are effectively enabled in the global post-2012 climate-change regime
- ensure that transboundary conservation is promoted in all the programmes of work of the Convention on Biological Diversity
- create enabling institutional architectures for resolving TBCA-related conflicts and issues.

ITTO, CBD, other international organizations and donors should:

- support, where appropriate, the establishment and effective management of TBCAs by providing financial, technical and policy support
- develop and encourage the use of minimum standards of transparency in conservation projects.

Academic institutions and think tanks should:

- promote development of repositories of knowledge, special research forces and an understandable vocabulary for TBCAs.

ITTO