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Transboundary Conservation and Peace-building:

Lessons from forest biodiversity conservation projects

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Transboundary Conservation and Peace-building:
Lessons from forest biodiversity conservation projects

by

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Foreword

The International Tropical Timber Organization (ITTO) and the United Nations University Institute of Advanced Studies (UNU-IAS) are two international organizations based in Yokohama, Japan, that have been actively involved in biodiversity policy issues for several years. UNU-IAS has published several studies on biodiversity conservation and is deeply involved in studying issues linked to the Convention on Biological Diversity (CBD). ITTO has promoted biodiversity conservation of tropical forests in both its policy development and field work. In 1993, for example, ITTO published its Guidelines for the Conservation of Biodiversity in Tropical Production Forests, later revised in 2009. This policy document sets out the specific actions that policymakers, forest managers and other stakeholders should take to improve biodiversity conservation in forests used for the production of forest goods and services. On the ground, ITTO has funded the establishment and/or management of a number of transboundary conservation reserves in its member countries.

What lessons can be learned from those projects on transboundary conservation? In order to answer this question, ITTO and UNU-IAS started a partnership to analyze and present lessons from these projects. The analysis and recommendations presented in this report is edited by Dr Saleem Ali, Professor of Environmental Planning and Conflict Resolution at the University of Vermont and Senior Fellow at the United Nations Mandated University for Peace in Costa Rica. We are pleased to jointly publish this report in the International Year of Forests, 2011 to renew our commitment to conserving forest biodiversity which has contributed to climate change mitigation and adaptation, livelihood improvements of local communities and even peace-building. We hope this report will serve as a useful reference for policymakers, professionals, and practitioners as they work to promote transboundary conservation in a sustainable way.

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Executive Summary

Transboundary conservation has acquired greater significance in recent years as international treaties, such as the Convention on Biological Diversity, have included such projects in their program of work. Since 1990, the International Tropical Timber Organization (ITTO) has been involved in several conservation projects that span international borders, which broadly include the following ecoregions: Borneo rainforest (Indonesia, Malaysia); Central African rainforest (Gabon, Cameroon, Republic of Congo); Southeast Asian forest (Cambodia, Lao PDR, Thailand); and the Andean rainforest (Ecuador, Peru and Bolivia). This report provides an evaluation of these projects in terms of their potential for peace-building, which has been a stated goal alongside conservation. The methodology for the study involved a series of qualitative questions that were posed to ITTO staff, governmental officials and civil society professionals via an email survey. In the case of the Cordillera del Condor region between Ecuador and Peru, a community field visit also elicited responses from indigenous community members regarding the salient role of this case in conflict resolution between the two countries. The comparative case analysis reveals that efficacy of these projects is often limited by leadership from the donor community and host governments but international organizations such as ITTO have the potential to catalyze lasting cooperation. Lessons from the analysis of six project cases include the need to: (i) Demarcate the region for conservation value (ii) Resolve micro-conflicts before instituting conservation plan (iii) Make livelihood prospects as they relate to migration part of the negotiations (iv) Negotiate access and communication during earliest phase of agreement (iv) Seek mediation and diplomatic leverage from "guarantor" countries and Non-Governmental Organizations (NGOs). The report concludes that with perseverance in achieving these goals and continued support of the international community, the achievements of these projects can be strengthened to meet the obligations of international environmental agreements.

1. Introduction

A clear recognition that ecological systems defy political boundaries has led several international organizations to implement an "eco-regional" approach to conservation. Political borders that may divide such contiguous ecosystems necessitate the involvement of environmental diplomacy, giving rise to the emerging practice area of transboundary conservation. International organizations can play an important role in this context to ensure that political rivalries and sensitivities over security concerns do not hinder the environmental and social protection of such areas. Border communities are particularly vulnerable to political conflicts and natural resources can become acutely contested on economic and social concerns in this context.

In 2004, a decision of the Seventh Meeting of the Conference of the Parties (COP-7) to the Convention on Biological Diversity (CBD) in Kuala Lumpur, stated that "the establishment and management of protected area systems in the context of the ecosystem approach should not simply be considered in national terms, but where the relevant ecosystem extends beyond national boundaries, in ecosystem or bioregional terms as well. This presents a strong argument for and adds complexity to the establishment of transboundary protected areas and protected areas in marine areas beyond the limits of national jurisdiction."[1]

In addition Goal 1.3 of the document states that- "To establish and strengthen regional networks, Transboundary Protected Areas (TBPAs) and collaboration between neighboring protected areas across national boundaries , with a target to: Establish and strengthen by 2010/2012 transboundary protected areas, other forms of collaboration between neighboring protected areas across national boundaries and regional networks, to enhance the conservation and sustainable use of biological diversity, implementing the ecosystem approach, and improving international cooperation."[2]

The interest of the International Tropical Timber Organization (ITTO), in transboundary conservation, can be traced back to 1990, when the ITTO Mission to Sarawak recommended that more land should be conserved in protected areas.[3] ITTO also recognized the potential for such border areas in supporting cooperation between bordering states.

ITTO has funded the establishment and/or management of a number of transboundary conservation reserves in its member countries. The first case was the Lanjak Entimau/ Betung Kerihun Transboundary Conservation reserve between Malaysia and Indonesia on the island of Borneo in 1994. This first initiative provided the impetus for a larger program in transboundary conservation as promulgated by the Yokohama Action Plan established by the Governing Council of ITTO from 2002-2006, leading to a series of projects worldwide, summarized in Table 1. This research tries to understand what are the lessons policymakers can learn from initiatives on transboundary forest conservation so far.

[1] UNCBD COP 7 Decision, Kuala Lumpur, 2004, pertaining to Protected Areas (Overall section II, point 8)

[2] Idib

[3] This lead to the development of the *ITTO Guidelines for the Conservation of Biological Diversity in Tropical Production Forests*, which was published in collaboration with the International Union for the Conservation of Nature (IUCN). A detailed history of ITTO as an organization can be found in Poore, D. 2003. *Changing Landscapes: The Development of the International Tropical Timber organization and its Influence on Tropical Forest Management*, London: Earthscan

Table 1: List of ITTO transboundary cases with project summaries of key components

Project Title	Key Features
Case 1: Borneo-Malaysia (Area of influence: 251,000 ha) and Indonesia (Area of influence: 2.16 million ha)	
Development of Lanjak-Entimau Wildlife Sanctuary as a totally protected area – Phase I (Malaysia)	• Management guidelines on priorities for biodiversity inventories and ecological studies, and identification of areas in the buffer zones for community based biodiversity resource development
Development of Lanjak-Entimau Wildlife Sanctuary as a totally protected area – Phase II (Malaysia)	• Inventories of fauna including small mammals and insects, uses of plant and animal species for medicinal or other traditional purposes, population size and distribution of rare or threatened species, • Establishment of two gene banks for seed production • Implementation of community-based development activities on cultivation of indigenous crops and rearing of indigenous fish species
Development of Lanjak-Entimau Wildlife Sanctuary as a totally protected area – Phase III (Malaysia)	• Research and development with emphasis on sustainable management of the Sanctuary and surrounding areas • Community development through extending the cultivation of indigenous crops and developing a demonstration plot and a mini-garden together with the necessary infrastructure and raising of fish species in valley ponds • Training to upgrade skills in community-related activities including handicraft making
Development of Lanjak-Entimau Wildlife Sanctuary as a totally protected area – Phase IV (Malaysia)	• A study on the ecotourism potentials of the Batang Ai National Park • An environmental conservation education programme in Lanjak-Entimau Wild Life Sanctuary • Traditional use of non-timber forest products among the Iban communities in the periphery of Batang Ai National Park

Project Title	Key Features
Transboundary Biodiversity Conservation - the Pulong Tau National Park, Phase I & Phase II (Malaysia)	• Field data on forest ecology and fauna surveys were analyzed. Rhino survey using camera trapping conducted • Assistance to the registration exercise for 342 Penan and three other communities to apply for birth certificates and identity cards at Long Bangah • Survey to map the highlands' cultural sites including megaliths at Ba Kelalan and Pa' Dalih • Organized a joint cross-border handicraft training course at Terang Baru in East Kalimantan
Development of Betung-Kerihun Nature Reserve as a national park – Phase I (Indonesia)	• Primary and secondary data on bio-physical and socio-economic aspects gathered and analyzed, and basic digitized maps were prepared • The 25-Year Management Plan of Betung Kerihun National Park (BKNP) was completed and handed over to the relevant institutions • Part of the management plan implemented by the Unit of Betung Kerihun National Park, Regional Office of Forestry, and District Upper Kapuas
The implementation of a community-based transboundary management plan for the Betung-Kerihun National Park, West Kalimantan, Indonesia, Phase II (Indonesia)	• Community workshops on park boundaries were organized • Several community groups had taken initiatives to utilize natural resources in a sustainable manner at the village level. Ecotourism was developed inside the Park • Collaborative programs and activities relating to the trans-boundary conservation area management with the Sarawak State of Malaysia had been initiated
Management of Kayan Mentarang National Park (KMNP) to promote trans-boundary conservation along the border between Indonesia and Malaysian States of Sabah and Sarawak (Indonesia)	• Management structures of KMNP established per Ministerial Forestry Decrees • Biodiversity surveys carried out at four different localities, and five species management plans prepared • Management structures established in cooperation with Malaysia and a bi-national taskforce set up. • Joint biodiversity expedition between Indonesia and Malaysia (Sarawak and Sabah) undertaken

Project Title	Key Features
Case 2: Emerald Triangle Complex - Thailand, Cambodia and Lao PDR (Area of influence: 364,000 ha)	
Management of the Phatam Protected Forests Complex to promote cooperation for transboundary biodiversity conservation between Thailand, Cambodia and Lao PDR (Phase I)	• An effective organizational and management system for the PPFC (Phatam Protected Forests Complex) was established • A long term management plan and a medium term work plan were developed • An information service to reach out the public and to enhance the impacts of the project was established
Management of the Phatam Protected Forests Complex to promote cooperation for transboundary biodiversity conservation between Thailand, Cambodia and Lao PDR (Phase II)	• A wildlife survey and monitoring of the Bunthrik-Yotmon Wildlife Sanctuary was conducted with the identification of landscape species • A Preah Vihear Forest and Wildlife Research Station and a ranger control post were constructed to strengthen the conservation and management of Preah Vihear Protected Forest • A series of training courses and workshops for local communities were organized to raise awareness of conservation and to gain experience with biodiversity conservation
Case 3: Kabo-Ndoki Region-Congo (Area of influence: 1.3 million ha)	
Biodiversity management and conservation in a forest concession adjacent to a totally protected area (Nouabale-Ndoki National Park), northern Congo - Phase I	• Promoting the co-management of 1.3 million ha of forest concessions, surrounding 0.4 million ha of the Nouabale-Ndoki protected area, to all relevant stakeholders • Developing practical systems for the biodiversity conservation in tropical production forest involving all relevant stakeholders, in particular local communities
Biodiversity management and conservation in a forest concession adjacent to a totally protected area (Nouabale-Ndoki National Park), northern Congo – Phase II	• Promoting an adaptative replication of the project approach as model for the partners of the Sangha Tri-National Transboundary (Cameroon, CAR and Congo) programme • Supporting and promoting some technically, economically and ecologically alternative activities contributing to decrease dependency on bushmeat, which is the main threat to forest biodiversity in the Congo Basin region

Project Title	Key Features
Case 4: Mengamé-Minkébé Transboundary Gorilla Sanctuary - Cameroon & Gabon (Area of influence:137,000 ha)	
Establishment of the Mengamé-Minkébé Transboundary Gorilla Sanctuary (MMGS) at the Cameroon-Gabon Border (Cameroon)	• Promoting a collaborative management process for the Gorilla sanctuary to ensure its protection, with high priority to the participation of local communities for the improvement of their livelihood • Initiating a process for cooperation between Cameroon and Gabon through, among others, the establishment of biological corridors between Mengamé and Minkébé
Case 5: Cordillera del Condor- Ecuador & Peru (Area of influence: 2.42 million ha)	
Bi-national conservation and peace in the Condor Range region, Ecuador-Peru: Phase I (Ecuadorian component)	• Two Conservation Areas officially established within the Natural System of Protected Areas: El Quimi Biological Reserve with 9,071 ha, El Zarza Wildlife Refuge with 3,643 ha as well as the Condor protected forest with 17,953 ha. Conservation agreements for the natural resource use in the Shuar territory of approximately 200,000 ha were established • The coordination framework between Ecuador and Peru was strengthened so as to ensure the harmonization of goals
Bi-national conservation and peace in the Condor Range region, Ecuador-Peru: Phase II (Ecuadorian component)	• Institutional framework established in the Shuar Territory of the Condor Range Region • A hunting, fishing and gathering management and protection system for conservation areas established • Mechanisms and instruments for coordinated conservation management between Ecuador and Peru established for control and surveillance, monitoring, and research. A web site (www.cordilleradelcondor.org) was developed

Project Title	Key Features
Bi-national conservation and peace in the Condor Range region, Ecuador-Peru: Phase I (Peruvian component)	• An integrated system of protected areas and buffer zones were defined based on the participatory processes and studies carried out in the region: A protected area of 152,874 ha denominated Ichigkat Muja Condor Range National Park was defined under IUCN Category I • A participatory bi-national and regional environmental management strategy was institutionalized for the conservation and sustainable development processes in the region, with a vision towards the creation of the Alto Marañon Biosphere Reserve • A Master Plan was developed for the Ichigkat Muja
Bi-national conservation and peace in the Condor Range region, Ecuador-Peru: Phase II (Peruvian component)	• The Condor Range National Park (www.cordilleradelcondor.org) was created over an area of 88,400 ha • Coordinated conservation management of the Condor Range region between Ecuador and Peru established and under implementation • Shuar (Ecuador) and Awajun-Wampis (Peru) indigenous communities in the Condor Range region have re-established their cultural links. Ten native communities have improved their development in the buffer zone
Case 6: Tambopata- Madidi Protected Area - Peru & Bolivia (Area of influence: 4.20 million ha)	
Conservation and development in the natural protected areas system of Tambopata (Peru) – Madidi (Bolivia)	• A Bi-national Technical Committee was created to coordinate transboundary cooperation issues for Tambopata – Madidi, which comprises the Tambopata Candamo Reserved Zone and the Bahuaja Sonene National Park in Peru and the Madidi National Park in Bolivia. • The master plan for the Tambopata National Reserve was expanded to include a micro-zoning of areas and a research area for the La Nube Biological Station

2. Methodology for Study

The aim of this study was to do an independent evaluation of the ITTO transboundary conservation projects and to draw policy lessons across cases which have thus far not been collectively compared. The criteria for analyzing the success and failure of projects were defined by the stated goals of conservation and increased cooperation between the jurisdictions involved in the projects. As with many international donor-driven organizations, ITTO uses logical framework methodologies to monitor and evaluate the implementation of its projects and regular reports are prepared in this regard. Such reports were initially evaluated for this study and the descriptive information about the parameters of projects is derived from these reports. However, the goal was to do a more critical investigative analysis of project implementation, based on field survey responses and interviews with key officials in the process.

The following three key questions were posed to ITTO practitioners involved in these projects via email and narrative responses were collected and analyzed for specific findings:

1. *How has working in a transboundary regions been challenging as well as rewarding in your professional experience? Describe any specific examples of your professional work which may illustrate these experiences.*

2. *Do you feel that environmental conservation has directly created a more suitable political situation for resolving any existing disputes or conflicts between the bordering states and communities? (The conflicts may have nothing to do with the environment but the cooperation on ecological conservation might play an instrumental role in bringing groups together and building trust). Provide any examples from your experience that informs this response.*

3. *How can international organizations strengthen transboundary conservation and development? Provide any specific changes to international legal instruments, bureaucratic procedures or negotiation strategies that you feel might be helpful.*

In addition, three in-depth field interviews of community members were conducted on the Cordillera del Condor case to gain further insights about the efficacy of this case. This case is unique as it is the focal area of an international treaty to resolve a long-standing violent conflict between Ecuador and Peru thus deserving particular attention. The community members were asked to respond to the following questions:

1. *Given that the peace agreement was signed between Ecuador and Peru, please describe specifically how your quality of life in terms of access to natural resources and social interactions has changed in positive and/ or negative ways.*

2. *How successful are the international organizations that are implementing and monitoring the agreement in meeting their objectives? Please point out specific areas that may need improvement.*

3. *Do you consider the Condor Corridor to be a "peace park?" Please comment in what ways such a title is appropriate and any ways in which it might not be suitable.*

4. *What are the most significant existing conflicts in this region? How might they be resolved within the framework of the agreement?*

5. *Are there ways of reconciling mineral extraction or large-scale timber extraction in this region with environmental conservation? If so, what would be the mechanism by which the community would like to play a role in the decision-making process or what measures of compensation might they be willing to consider for the impacts?*

The interviews were carried out in languages that the respondents were most proficient in, followed by in-house translation by ITTO staff. Cross-verification of responses was performed by the editor of this study by contacting other external experts familiar with each case to prevent documentation biases due to any conflicts of interest. A literature review using Environment-Complete citation database provided documentation of earlier studies, analyses of the cases and analyses of ITTO as an organization within the constraints of available resources , variable for different cases, and the timeline for completion of the report, the methodology aimed to ensure objectivity and relevance.

3. Case Analyses

This study is organized around the three key regions where the initiatives were implemented. The scale and scope of the Asian and South American cases was greater and hence received more detailed coverage than the African cases. Following the case analyses, cross-cutting policy recommendations are provided, with particular relevance to international treaty obligations of countries and development donors.

3.1 The Borneo

General Overview

The agreement regulating the implementation of ITTO's first transboundary conservation project was signed in Jakarta in August, 1994. The Betung Kerihun Nature Reserve (BKNR) was established in 1992 through the Ministerial Decree and was enlarged to 800,000 ha. The BKNR comprises of several ecosystems, including lowland dipterocarp, wet hill, montane, and moss forests with patches of limestone outcroppings in the east and swamp forests in the south-eastern region. The project built upon the cooperative program between the Government of Indonesia and the Government of Malaysia that was initiated in 1993. Japan and Switzerland provided grant assistance through ITTO for establishing the transfrontier reserve comprising of the Lanjak Entimau Wildlife Sanctuary (LEWS) in Malaysia, which is adjacent to BKNR in Indonesia and the Batang Ai National Park in Sarawak. (Figure 1)

There were two objectives of this effort:

1. To develop Betung Kerihun Nature Reserve as a National Park by conserving the biodiversity values of the area and by developing its research, educational, recreation and tourism potential and
2. To initiate regional development and promote economic, scientific, educational, culture and tourism cooperation between Indonesia and Malaysia, particularly West Kalimantan and Sarawak.[4]

Soon after the project commenced, socio-economic surveys were conducted in the immediate settlement areas surrounding the protected areas to determine land-ownership and acquisition, traditional land uses and social practices (participatory mapping), settlement patterns, economy, health, education, attitude and development potentials. The results of Phase I of this project were used in the preparation of a Management Plan for the Lanjak Entimau Wildlife Sanctuary. Phase II implemented the recommendations of the Management Plan related to the continuation of the inventory of biological resources, community-oriented activities and training to improve the knowledge and skills of both officers of the Forest Department and the local communities (Figure 2&3). As a result of these inventories, a number of sensitive areas have been identified as special protection zones. Re-zoning of the Sanctuary has subsequently been carried out. This is a significant feature of this project which responds to a frequent critique that the boundaries of Transboundary Protected Areas (TBPAs) are determined politically rather than the application of conservation criteria.

Subsequent phases of the project aim "to develop a strategy for cooperation in trans-boundary conservation between Indonesia and the Malaysian States of Sabah and Sarawak,

[4] ITTO Project Report on LEWS

in order to conserve the integrity of the Park's bio-diversity values. Specific objectives are: (i) to establish an operational management unit for the Kayan Mentarang, and (ii) to initiate a process for cooperation between Indonesia and Malaysia in the management of their trans-boundary conservation areas.

An important feature of this project has also been the attempt to negotiate between provincial entities that share borders. Dialogues and discussions with local authorities at the provincial and district levels, with local communities living inside the park, and with relevant park authorities in the Malaysian States of Sarawak and Sabah were conducted to gain inputs and support for project design and implementation.

International organizations of which both Malaysia and Indonesia are members have helped strengthen this project. In particular the ASEAN Agreement on Trans-boundary Haze Pollution, which came into force in 2002 and the Cebu Declaration on East Asian Energy Security have been important in raising the profile of this project. The ASEAN-Wildlife Enforcement Network, established in 2005, has also strengthened the mandate of ITTO's transboundary conservation efforts .

This project has also linked conservation activities directly to development impacts. Penan communities have been provided clean water from gravity feed, amenities, and better infrastructure and facilities. In LEWS, 24 fish ponds were constructed for the longhouse communities and schools, while many farmers participated in the planting of popular local fruits trees. A suspension bridge was built in December, 2009 to enable the Penan and their children to safely cross a major river safely. The efforts at developing infrastructure have also been aimed beyond the borders of the park itself such as the construction of homes for 18 Penan families living outside the national park.[5]

Challenges

One of the key field managers of this project, Paul Chai notes, however, that: "*it has not been easy to strengthen transboundary cooperation beyond joint task force meetings, workshops, cross visits and exchange of information. Priorities, funding and management capacity vary between the partner nations. It is not realistic to expect both sides to be equally committed to TBP cooperation. Most of the time, it was Sarawak that had to initiate meetings of the joint task force, cross visits, and workshops. We should not be too ambitious in transboundary cooperation - in view of rapid development pressures, ability to protect TBPAs from encroachment will already be an achievement in itself*."[6]

There can be several micro-conflicts within protected areas irrespective of the border location. It has been noted that when the LEWS project was initiated in 1993, the residents blocked the river with their boats to block staff from entering the sanctuary. However, through years of trust-building efforts through positive development impacts and conservation are now on well-respected. Chai noted that some of the people have also taken the initiative to stop outsiders from entering protected areas to fish and hunt - this has never happened before.

Indonesia and Malaysia already have existing bilateral and multilateral cooperation, such

[5] Respondent: Paul Chai, Forest Department, Sarawak
[6] Idib

as Sosek Malindo (Sosial Ekonomi Malaysia Indonesia), BIMP EAGA (Brunei, Indonesia, Malaysia, and Philippine East ASEAN Growth Area), and the latest initiative the "*Heart of Borneo*" between Brunei, Indonesia, and Malaysia. According to a representative from the WorldWide Fund for Nature (WWF) in Indonesia what we need is "community-based ecotourism, species conservation, joint action on transboundary national park management (like Betung Kerihun NP-Danau Sentarum NP and Batang Ai NP-Lanjak Entimau WS with regular joint inspection, staff and local people exchange, knowledge and capacity sharing and a joint program on environmental education). [7]

Lessons

The Borneo TBPA projects suggest that persistence at managing local conflicts through development efforts focused on local priorities can pave the way for greater border cooperation. Following trust-building, it may be possible to also prioritize conservation lands based on importance in terms of biological diversity as exemplified by the success of the rezoning efforts in LEWS. The role of regional security organizations such as ASEAN can play an important role in further strengthening the binational cooperation efforts in TBPAs.

3.2 The Emerald Triangle Complex

General Overview

Indochina, as an area that has endured decades of violent conflict that has scarred the landscape, is particularly sensitive in terms of its environment. Border areas in this region are particularly sensitive and regional rivalries between the countries in this region remain high. Lao PDR, is not an official member of ITTO, yet the project was approved with the expectation that such an initiative could pave the way for Lao PDR joining ITTO or at least environmental cooperation between Lao PDR, Cambodia and Thailand could be strengthened.

The project aimed to contribute to "the development and demonstration of a model strategy for the management of trans-boundary protected areas with emphasis on cooperation between Thailand and the neighboring countries." The project was approved during the 28th Session of ITTO Council and fully financed by the Governments of Japan, Switzerland, USA and France during the same Session. The agreement regulating the implementation of the project was signed on 13 September, 2001 and the first disbursement of funds was made soon after on 20 September.

The cooperation between the countries was built mainly through the Tri-partite Commission comprising of government officials and protected area superintendents and the Joint Task Force composing protected area field staff which served as the forum for exchanging views and information and for decision making on the implementation of the various cooperative activities of the project (Figure 4).

[7] Respondent: Hermayani Putera, WWF, Indonesia

Challenges

The level of economic and political disparities between the three countries was a major hindrance to this project. As one respondent stated: "*If participating countries with different social, economic and historical characteristics maintain different environmental and national security policies, problems and constraints retard the progress of transboundary Conservation Areas*."[8] The evaluative study carried out by ITTO in 2010 noted that "*the achievement of the respective outputs is less than what was planned. This is due to the non-participation of Lao PDR and to the border conflict between Thailand and Cambodia since 2008 which created a context that is not conducive to any strategic dialogue between the three parties as far as pursuing TBP goals in the Emerald Triangle is concerned*."[9]

Part of the critique of this project revolved around the inconsistency in applying logical framework analysis[10] across the three countries components of the project. Table 2 highlights some of the expectations in this regard which did not take into account political exigencies involved.

Table 2: Specific objectives of the Emerald Triangle Project and respective outputs[11]

Objective	Expected Outputs	Indicators of success
Objective 1: Strengthen cooperation between Thailand, Cambodia and Lao PDR on transboundary biodiversity conservation	1.1. A management structure for cooperation at all levels is adopted and operational	1.1 (a) PSC and National Coordination Committee established (b) Appropriate staff for project deployed
	1.2. Transboundary biodiversity conservation activities among the three countries are strengthened	1.2 Meeting of participating stakeholders.
Objective 2: Enhance protection and monitoring of biological resources along the tri-national borders	2.1 Human resource capacity in biodiversity conservation and management have been trained	2.1 Number of training courses and participants
	2.2 Research on wide range-species conducted and data collected	2.2 (a) Illegal cases decreased (b) Number of species and frequency of occurrence of key wildlife species
	2.3 Law enforcement and protection measures have been strengthened	2.3 (a) Joint research program planned and implemented (b) A completed baseline data at the proposed corridor

[8] Respondent: Lim Sopheap, Cambodia Forestry Administration

[9] International Tropical Timber Organization, "Management of the Emerald Triangle Forest Complex" Report Prepared by James Gasana, 2010

[10] Logical Framework Analysis seeks to get development donors to focus on three key parts of project evaluation: (i) developing measureable indicators (ii) verification mechanisms and (iii) analyzing assumptions to ensure project applicability elsewhere

[11] Derived from Gasana, 2010

Objective 3: Strengthen the involvement of local communities and stakeholders in sustainable uses	3.1 Local community fora and networks are established and further strengthened	3.1 Number of community network and member established in target sites
	3.2 Integrated conservation and development programs carried out by means of the pilot activity fund	3.2 Number of community-based conservation activities implemented in target sites
	3.3 Nature-based tourism activities established and further expanded	3.3 (a) Potential ecotourism sites identified (b) Package tour developed

Furthermore, the ITTO completion report for Phase 2 noted that the budget allocated for supporting livelihoods activities was considerably low for a project that defined itself in community development terms. As of the end of January 2010, job creation accounted for 3.8% of total spent budget for Thailand Component and 3.03% for Cambodia Component. In comparison, the percentage of expenses on personnel and consultants was 65.27% for Thailand component and 48.28% for Cambodia component.[12] An evaluation by the Thai government also echoed some of these concerns: "*A Trans-boundary coordination activity among the three countries was not achieved. Human resources capacity in biodiversity conservation strengthened was partially achieved, but there was no systematic training. Law enforcement and protection measures strengthened were not achieved*.**"**[13]

The trans-boundary project area was east of a major long-running dispute over whether Thailand or Cambodia controlled the Preah Vihear Temple and the immediately adjacent setting. This is an active military zone with occasional firing across the border that has also garnered international news coverage. There are conservation organizations such as the Maddox Jolie Pitt (MJP) Foundation that have actively worked on transfrontier conservation efforts in this context and has partnered with the U.S. National Park Service to train park rangers on both sides of the border in Thailand and Cambodia. These efforts could also have been included in the larger ITTO program effort.[14]

Respondent Hunter Weiler, project advisor for four years, indicated that "*for several years Cambodia and Thai forestry staffs communicated by email and phone weekly to monthly to share data and report on activities in the trans-boundary project conservation area, met together alternately in Thailand and Cambodia for joint presentations to the stakeholders and ITTO, and even made a joint field trip to the Tri-border area*. "[15] However, Weiler and his staff noted in subsequent correspondence that there was a reluctance to engage with the political needs of the three countries directly and this led to inaction on the part of Lao PDR. One report suggested that the way for ITTO to include Lao PDR in the effort was for ITTO to:

[12] Ibid

[13] Royal Forest Department, Government of Thailand and Ministry of Forestry and Fisheries, Government of Cambodia, "Management of the Emerald Triangle Protected Forests Complex to Promote Cooperation for Trans-boundary Biodiversity Conservation between Thailand, Cambodia and Laos (Phase II), Completion Report," ITTO, August 2010

[14] For details regarding this effort refer to: http://home.nps.gov/applications/digest/headline.cfm?type=Announcements&id=5092

[15] Respondent Hunter Weiler, Cambodia, Cambodia Forestry Administration, Department of Wildlife & Biodiversity

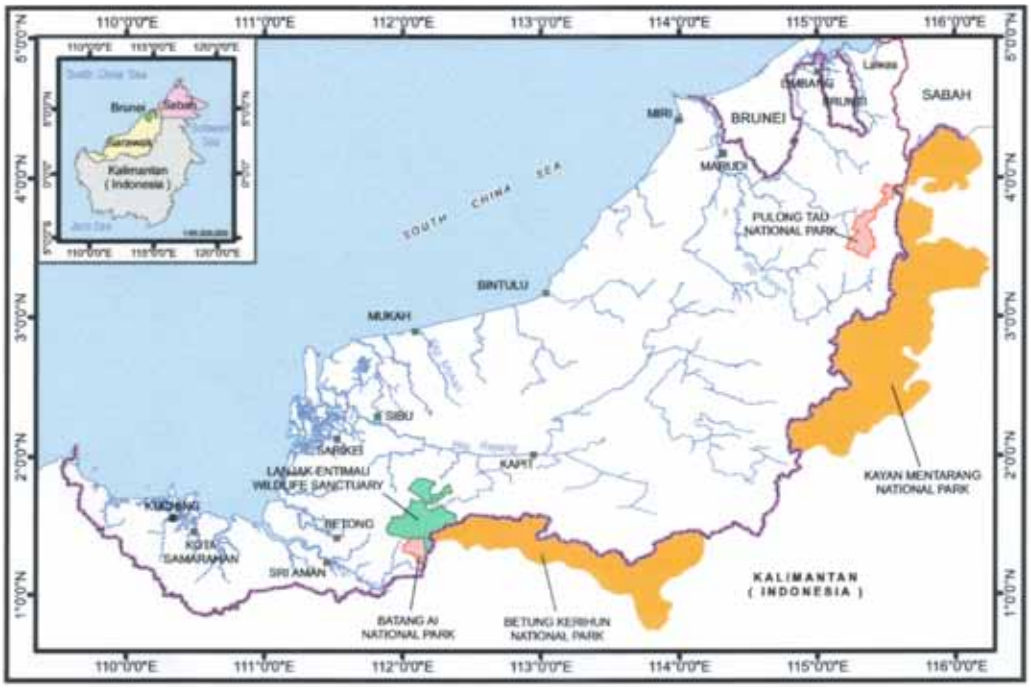

Figure 1 Map of Lanjak-Entimau Wildlife Sanctuary, Sarawak, Malaysia

Figure 2 Orangutan western Borneo subspecies *(Pongo pygmaeus pygmaeus)* in Lanjak Entimau Wildlife Sanctuary in Sarawak, Malaysia/Betung Kerihun National Park in Indonesia. Population: 4,000. Transboundary cooperation helps secure large conservation forests. Development of Lanjak-Entimau Wildlife Sanctuary as a totally protected area has been supported by ITTO projects since 1994.

Jambu fruit dove

Rana hosei

Aeschnanthus sp.

Figure 3 Species richness and diversities of flora and fauna across wide range of habitats in Lanjak Entimau Wildlife Sanctuary in Sarawak , Malaysia

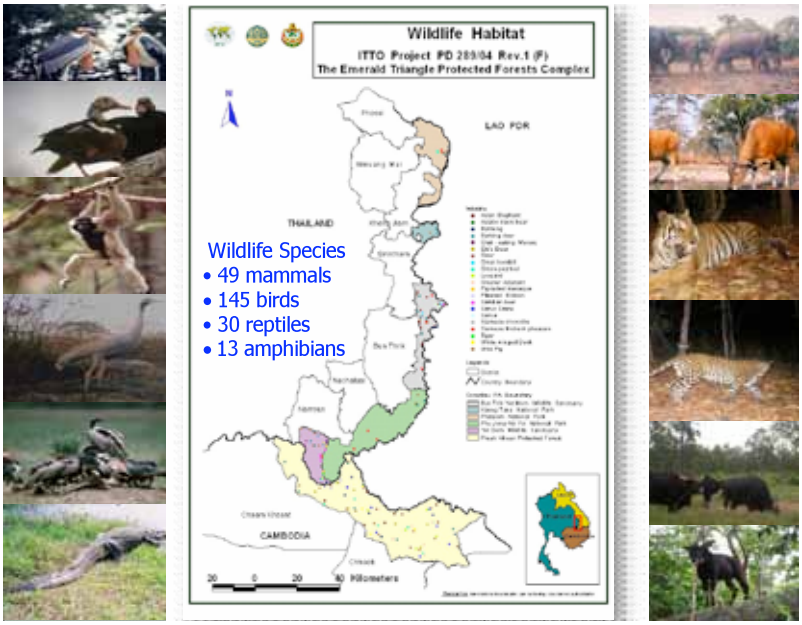

Figure 4 A wildlife habitat map of the Emerald Triangle Protected Forests Complex which was produced by ITTO Project "Management of the Emerald Triangle Protected Forests Complex to Promote Cooperation for Trans-boundary Biodiversity Conservation between Thailand, Cambodia and Laos"

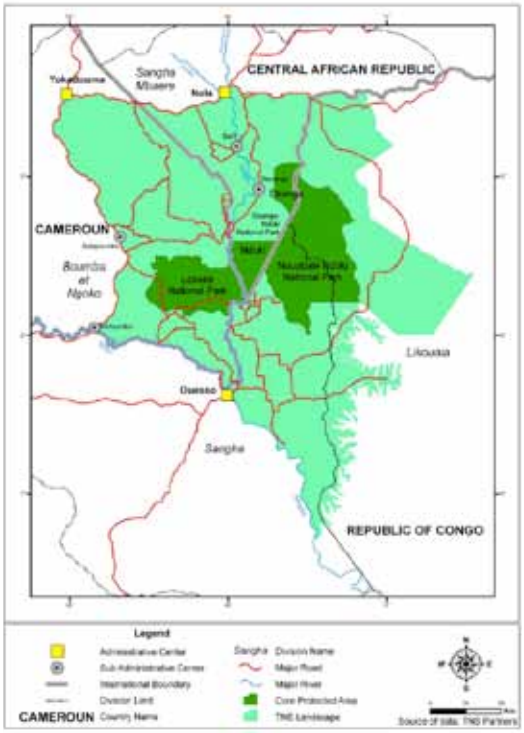

Figure 5 Map of Nouabale-Ndoki National Park, northern Congo

Figure 6 A Gorilla sanctuary has been in place in Cameroon/Gabon borders to ensure its protection, with high priority to the participation of local communities for the improvement of their livelihood through ITTO project "Establishment of the Mengamé-Minkébé Transboundary Gorilla Sanctuary (MMGS) at the Cameroon-Gabon Border"

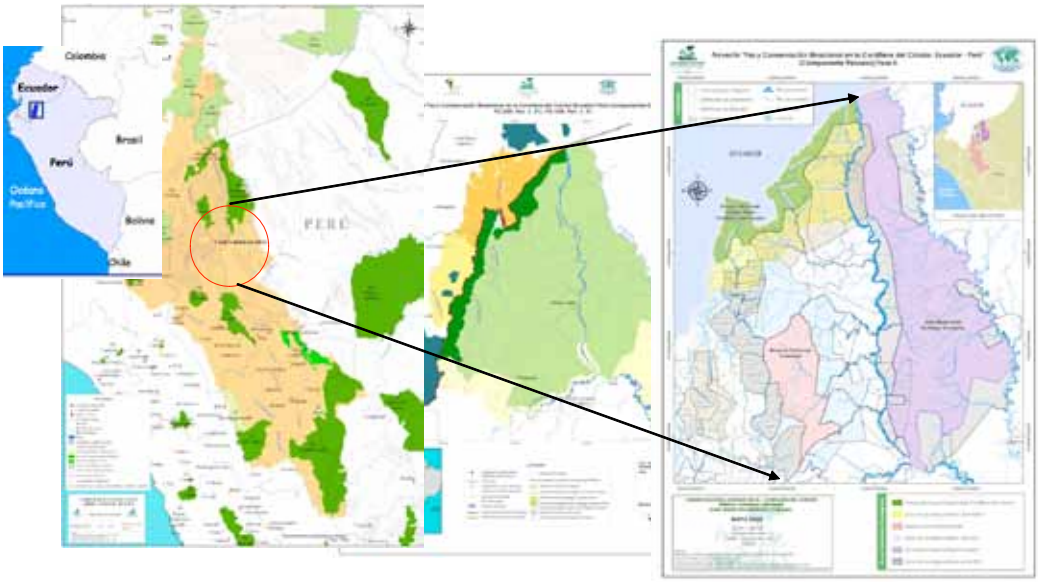

Figure 7 Map of Condor Range region between Ecuador and Peru

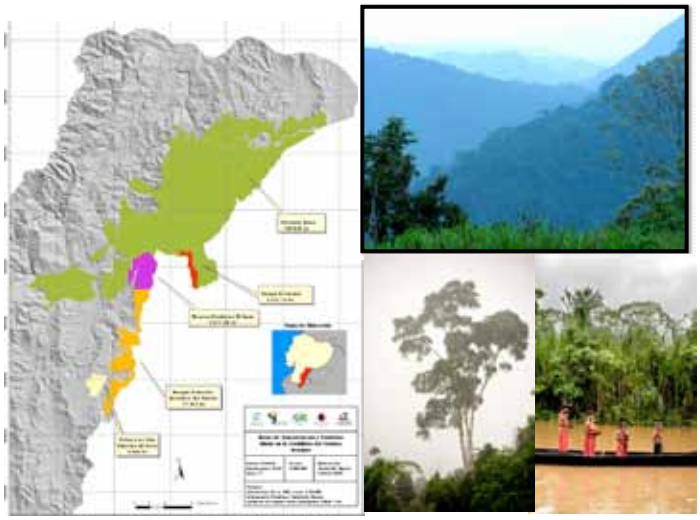

Figure 8 Management of the Transboundary Natural Protected Areas between Ecuador and Peru, such as the El Cóndor Protected Forest, the Biological Reserve El Quimi and the Wildlife Refuge El Zarza has been enhanced through the development of a binational conservation framework under ITTO project "Bi-national conservation and peace in the Condor Range region, Ecuador-Peru (Ecuadorian component)"

Figure 9 The capacity of indigenous communities for the sustainable management of the natural resources of the Condor Range Region has been a key element for ITTO project "Bi-national conservation and peace in the Condor Range region, Ecuador-Peru (Peruvian component)"

Figure 10 Map of natural protected areas of Tambopata (Peru) and Madidi (Bolivia)

"… officially inform the Lao Government via the concerned authorities in Cambodia and Thailand only. They will forward the project proposal to the Ministry of Agriculture and Forestry to consider passing the project to the Department of Forestry. The Department of Forestry will examine the project proposal and provide recommendations. The Ministry of Agriculture and Forestry will then coordinate with the Ministry of Foreign Affairs to submit the project proposal and the recommendations to the higher authorities for consideration and approval. [16]

An internal evaluation of the management plan also considered the funding of the project as a reason for the withdrawal of Lao PDR from active engagement. In the original proposed Project Document for Phase II, funding for participation by Lao PDR was included. However, as Lao PDR was not a member of ITTO, it became increasingly difficult to procure funding for the Laotian component secured from donors.[17]

Another critique of the project centers on the actual demarcation of the protected areas. Unlike the Borneo projects where rezoning was undertaken following community advice, the Emerald Triangle case borders were not as well-considered. In addition to Phu Xiang Thong, the Nam Phui NPA also borders Thailand, and Xi Piane borders Cambodia, across the Mekong River. Xi Piane has been proposed by WWF as part of a Trans-boundary landscape linked to other protected areas in Laos and Vietnam and adjacent forests and parks in Cambodia. A protected area was proposed over 10 years ago in southern Lao PDR that borders Cambodia and Thailand, referred to as the Dong Khanthung National Biodiversity Conservation Area (DKT), which would have been the most suitable location for Laotian involvement. Because of security concerns the Laotian government has not moved forward in formalizing this area. However, a provincial conservation has now been established in this region which could provide an opportunity for community-level collaboration in this region. In June 2010, the U.S. Embassy in Lao PDR funded a detailed survey of endangered gibbon populations in the DKPT Provincial Conservation Area.[18] This documentation and interest in donor support could provide an incentive for the central government of Lao PDR to also support inclusion of this area within the Emerald Triangle Complex.

Lessons

Despite the deficiencies in the project, there is still potential for learning from these processes. As one Cambodian respondent stated: "*It is too early to provide information in details in terms of environmental conservation which directly created a more suitable political situation for resolving any existing disputes or conflicts between the bordering states as the trans-boundary for biodiversity conservation along the border between Thailand and Cambodia is very young (two years). However, the fact that border deputes have been seen as obstacle to trans-boundary conservation of biodiversity. So far environmental conservation has not been seen to solve political conflicts. No formal and direct dialogues have been conducted in regard to the matter*."[19]

With the linkage of this TBPA to other border projects in the region, there could be a transformation of the conflict. Enabling regional cooperation platforms through technical

[16] *The Management Plan of The Pha Taem Protected Forest Complex January 2004, Annex 3*
[17] Respondent Hugo Rainey, Wildlife Conservation Society, Cambodia
[18] http://cmsdata.iucn.org/downloads/gibbon_report_final_20_7_2010.pdf
[19] Respondent: Hort Sothea, Cambodia Forestry Administration

support, legal instruments, and financial assistances, such as ASEAN - the Senior Officials on Forestry (ASOF), Senior Officials on Environment (ASOEN); ASEAN-Wildlife Enforcement Network; and Greater Mekong Sub-region Cooperation (GMS); and ITTO.[20]

3.3 Kabo-Ndoki Region

General Overview

Central Africa's forests are considered among the largest contiguous conserved areas in the world for primate habitat (Figure 5). Given their significance in ecological terms as well as the desperate need for economic development in this region, ITTO has embarked on two key projects in this border zones region.

The Kabo-Pokola-Loundoungou forest concessions, adjacent to the Nouabale-Ndoki National Park, are largely managed within the Republic of Congo, though the area borders, Cameroon and the Central African Republic. The Agreement regulating the implementation of the project was signed on 2 April, 2001 and the first disbursement of funds was made on 19 June, 2001. This project used an ecosystem approach for the management of the contiguous Kabo-Pokola-Loundoungou forest concessions adjacent to the Nouabale-Ndoki National Park northern Congo. The Ministry of Forest Economy, Government of Congo, the Congolaise Industrielle des Bois (CIB) - a private company, and the Wildlife Conservation Society (WCS) – an international environmental NGO, agreed to work together with local communities to implement an integrated project with the goal of sustainable wildlife and forest management as part of the ecosystem management strategy. Thus, the project developed practical tools to assist the Republic of Congo in meeting the ITTO sustainable forest management objective while promoting biodiversity conservation within the context of a multiple-use forest production adjacent to a protected area.

A key feature of this project is the development of a zoning system, following the wildlife management guidelines. This system will be included in the Management Plan of CIB company's forest management units (FMUs) totaling 1.3 million hectares, surrounding 0.4 million hectares of the Nouabale-Ndoki National Park. A formal management system has been established to facilitate communications among the Government of Congo, WCS and CIB, in order to ensure that management strategies are officially incorporated into the CIB internal regulations and management plans that could serve to set national standards for forest management and wildlife conservation in forest concessions in the Republic of Congo.

The CIB logging company has benefited in the implementation of this project and revised its regulations and management plans, in order to reduce forest encroachment and control human immigration and deforestation. The threats related to the illegal hunting and commercialization of protected species has been minimized in the Nouabale-Ndoki National Park. CIB has therefore improved chances for certification of its products as a result of improved forestry and biodiversity management in its forest concessions. The local communities and the indigenous peoples were involved in the establishment and implementation of a wildlife management strategy through the demarcation of hunting zones based on the traditional community land tenure systems, and all eco-guards incorporated into the enforcement

[20] Survey Respondent: Cheang Danny,Forestry Department, Cambodia

efforts were recruited from local communities and indigenous peoples. Alternative activities for the production of proteins to replace bushmeat have also benefited local communities and indigenous peoples.

The surveillance of 1.3 million hectares of the project area and the anti-poaching system have been implemented by a team of 38 eco-guards, acting under the supervision of sworn officials from the Ministry of Forestry Economy of the Republic of Congo. During their surveillance patrols, the eco-guards have seized 23 guns of different types and related ammunitions, more than six thousand metallic traps, bushmeat of 25 animal species including endangered ones (leopard, gorilla, chimpanzee, etc). These patrols have led to put under arrest 99 people for poaching activities in the project areas. [21]

Challenges

Aspects of the project design that challenged or slowed project implementation include the following:

- The lack of a formal structure for conflict resolution gave way to situations in which the stakeholders could not reach an agreement
- The lack of a formal organ for communication between community leaders and other parties at the beginning of the project implementation
- The lack of a regional development plan (national road placement, town development, etc.)
- The lack of a defined buffer zone in areas immediately surrounding the Noubale-Ndoki National Park.

Lessons

The project evaluation report noted some key aspects of the project design that have contributed to the project's success. These include:

- Strong integration of the government officials in the project validated the importance of the project, offered support at local and national levels, and assured that the project goals matched government goals
- Early definition and clarification of the division of responsibility among all stakeholders prevented confusion and overlap between project partners, through shared responsibility among stakeholders, thus contributing to address the most complicated and socially contentious issues (such as controlling the commercial bushmeat trade)
- Integration of the private sector offered expertise and resources essential to the project success
- The involvement of local communities into the establishment of hunting zones and the recruitment of eco-guards and project employees from local communities have contributed to the success of the law enforcement and wildlife conservation

[21] ITTO, Biodiversity Management and Conservation in a Forest Concession Adjacent to a Totally Protected Area (Nouabale-Ndoki National Park), Northern Congo (Congo) [extract from CRF(XXXVII)/3, 2005, Completion Report].

component of this project. The project has contributed to encourage local populations being organized in associations/committees that contributed to reinforce project actions in the field

- The multi-faceted approach adopted for this project, which simultaneously developed education, wildlife conservation, research and monitoring, reduced impact logging techniques and alternative activities was essential to gaining and maintaining local support during project implementation
- The traditional land tenure systems have been reinforced through the wildlife management zoning based on traditional territories in consultation with local communities and indigenous peoples
- Close management of the protection teams to prevent/reduce employee corruption, through regular evaluations, punctual and clear disciplinary measures, and increased intensity of the training program
- The careful planning of eco-guards' field program as pivotal factor in the successful management of these units with a maximum efficiency
- Strong disciplinary measures taken by CIB logging company to limit the complicity of CIB truck drivers with hunters for the transport of commercial bushmeat on their vehicles. However, it is important to note that the importation of protein sources is more expensive than bushmeat and could require either an increase in employee salaries or the creation of a company-subsidized program
- A strong field team and the willingness to try multiple activities for the development of alternative activities program taking into account the diversity of regions and cultures in the project landscape with different dietary preferences and
- A strong education program aimed at mitigating potential conflicts with local populations, especially for the enforcement of wildlife laws.

Additional arrangements that could improve cooperation between the relevant parties interested in the project implementation include the following:

- Strengthening of community hunting and conservation committees could decrease village anxiety regarding changing wildlife policies and improve cooperation among local communities
- Establishing a multi-agency task force (involving the project partners as well as other governmental departments concerned), which could contribute to deal with conflict management regarding development of infrastructure and reconciliation of biodiversity conservation with forest production objectives.[22]

This project has also been studied by conservation biologists in terms of the efficacy of management practices on the distribution of fauna. Clark et al., (2009) notes that: "*the mean species abundance responded nonlinearly to logging history, changing over 30 years as the forest recovered from logging. Finally the distance away from roads, natural forest clearings, and villages also determined the abundance of mammals. Our results suggest*

[22] PD 310/04 Rev.2 (F) *Biodiversity Management and Conservation in Forest Concessions Adjacent to Totally Protected Area (Nouabale-Ndoki National Park), Northern Republic of Congo (Phase II)*

that logged forest can extend the conservation estate for many of Central Africa's most threatened species if managed appropriately. In addition to limiting hunting logging concessions must be large, contain patches of unlogged forest, and include forest with different logging histories."[23]

Another study, Stokes et al., (2010), focusing on the elephant and ape populations concluded that "*given adequate protection from poaching, elephants and gorillas can profit from herbaceous vegetation in recently logged forests and maintain access to ecologically important resources located outside of protected areas. However, proximity to the single integrally protected area in the landscape maintained an overriding positive influence on elephant abundance, and logging roads – even subject to antipoaching controls - were exploited by elephant poachers and had a major negative influence on elephant distribution. Chimpanzees show a clear preference for unlogged or more mature forests and human disturbance had a negative influence on chimpanzee abundance, in spite of anti-poaching interventions*."[24]

Despite these successes, there are concerns about the overall poverty in the region. As one respondent, based in the Republic of Congo stated: "Until the fundamental needs are met for Rep of Congo people, environmental conservation will be a challenge, and not the 'cure' for saving Congo' wild lands and animals or any other disputes or conflicts. Since the economic recession the logging company CIB had to lay off over 600 personnel which in turns leave many people needing food and other resources, thus increasing pressure on wildlife, thus poaching increases."[25]

3.5 Mengamé-Minkébé Transboundary Gorilla Sanctuary (MMGS)

General Overview

Gabon has been an oil-dependent economy and this has generally translated into less timber exploitation in the rainforest.[26] Cameroon's forests came under international scrutiny during the construction of the Chad-Cameroon oil pipeline which received partial funding from the World Bank's International Finance Corporation. Since its establishment in 2001, the project aims to contribute to the protection of the Gorillas and of their habitats in the MMGS (Figure 6). Transboundary cooperation between Cameroon and Gabon for the joint management of the sanctuary was a stated objective from the start of the project.

This effort has also received support from the Jane Goodall which signed a convention with the Cameroon *Ministry of Environment and Forests* (MINEF) to establish a community centered conservation and wildlife research program in the newly proclaimed Mengamé Reserve (115,000 ha). As noted by the Jane Goodall Foundation, this reserve is "a priority biodiversity corridor on the border of Cameroon and Gabon, the Mengamé Reserve plays an important role in emerging transboundary protected area initiatives and partnerships such as the Central African World Heritage Forest Initiative and the Congo Basin Forest Partnership."[27]

[23] Clark, C.J. et al., 2009
[24] Stokes EJ, Strindberg S, Bakabana PC, Elkan PW, Iyenguet FC, et al., 2010
[25] Respondent: Suzanne Mondoux, Wildlife Conservation Society, Republic of Congo
[26] Wunder, 2007
[27] *Gorilla Journal* 27, December 2003: www.janegoodall.org

Challenges

The project has faced considerable challenges because of the difficulty in border crossings and the persistent problem of cross-border poaching. As noted by project manager Etienne Nkomo: "*there is intense cross-border poaching in both directions and the need for the establishment of a joint strategy to fight against poaching is needed. It is also very difficult to arrange meetings for participants from both countries due to security restrictions*."[28] Even so the cross-border initiative has given an opportunity for both countries to develop some cross-border initiative, particularly pertaining to illegal mining of gold in protected areas. This project still has considerable development needed but the commitment of both countries to conservation appear to be strengthening.

Lessons

As noted by a key advisor on the project from the Worldwide Fund for Nature in Cameroon: "*International organizations can strengthen transboundary conservation by facilitating necessary administrative structures to ensure the implementation of transboundary agreements. The provision of technical assistance greatly facilitated the development of the TRIDOM (Congo, Gabon and Cameroon) initiative which has changed the conservation approaches between these countries. To facilitate development of local economy, international organizations can facilitate information exchange and sub-regional markets for local communities. It is important that transboundary initiatives be backed up by enabling legal and institutional framework that can be developed in collaboration with international organizations*."[29]

3.5 The Cordillera del Condor

General Overview

The territorial conflict between Ecuador and Peru goes back to the Spanish colonial period in the nineteenth century when Peru and Ecuador gained independence. In 1995, following several failed attempts at conflict resolution, an armed conflict broke out that lasted for about three weeks. A peace agreement signed in February that year, committed both countries to the withdrawal of forces "far" from the disputed zone. This plan was overseen by four guarantor countries: Argentina, Brazil, Chile, and the United States. In compliance with the plan, both nations organized the withdrawal of 5,000 troops from the Cenepa Valley and supervised the demobilization of 140,000 troops on both sides.[30]

With this much accomplished, conservation groups became very active in trying to lobby for a peace park. It should be noted that Conservation International (CI) was actively involved in biodiversity fieldwork even before the resolution of the conflict. CI had worked closely with the military when fieldwork on documenting the biodiversity of the region was conducted in 1993. Therefore they were gradually able to influence more army officers about the collective importance of conservation and its instrumental use for conflict resolution. In November 1997, the two nations agreed in the Declaration of Brasilia to address four areas:

[28] Respondent: Etienne Nokomo, ITTO Manager, Cameroon
[29] Respondent: Njiforti Hanson Langmia, WWF, Cameroon
[30] Ali ed., 2007

(i) a commerce and navigation treaty, (ii) a border integration agreement that would stimulate much needed development in both countries, (iii) a mutual security agreement designed to prevent future conflicts, and (iv) a completion of demarcation of land borders. By February 1998, they were able to agree on the first three, but that left the most important one, the demarcation of land borders. Tensions arose again in August 1998 as 300 Ecuadorian soldiers spread out along an 11 kilometer line, 3 kilometers inside Peru and 20 kilometers from the demilitarized zone.

To prevent further escalation, and with pressure from conservation groups, the presidents of Ecuador and Peru both met with President Clinton on October 9, 1998, and asked that the guarantor nations make a proposal to mark the border for them. With US satellite mapping they were able to arrive at an agreeable border demarcation. The terms of the peace agreement had some innovative features. The disputed stretch of border would be demarcated according to the Rio Protocol's line of division,[31] going back to a 1948 map, which was a major concession from the Ecuadorians. In return, Ecuador was given a square kilometer of private — but not sovereign — property across the Peruvian side of the border, extending to Tiwintza. Both countries would establish ecological parks on either side of the border, where unimpeded transit would be guaranteed and no military forces would be allowed. Ecuador was also granted non-sovereign navigation access to the Amazon and its tributaries in Peru and also allowed to establish two trading centers along the river.

Challenges

Initially both countries declared national parks on their respective sides of the border. However, in 2000, Conservation International and ITTO partnered with local conservation groups in Ecuador and Peru and with the Chimu indigenous communities (particularly the Schuar of Ecuador) to establish a bioregional management regime (Figure 7).

However, the lack of consultation with the indigenous communities during the negotiations leading to the peace agreement are still manifest in resentment towards conservation efforts. In the words of one community leader from the Shuar:

"*This was territory occupied by the Shuar Wampís and they were not consulted about the agreement. Therefore, it is illegal what has been done, declaring it property of the State of Peru, even if a reserve was built. And we are not against the conservation of the Natural Resources, but the name Park of the Peace is not considered appropriate. The conflicts that take place are by-products of the presence of transnational mining, oil, cuíferas and timber companies, that are yet to come. For who are we going to extract? To build more vehicles, computers, so they can sell it back to us at a more expensive price. Why the concentration of wealth happens? Why not allow the communities to participate? As for the timbering,mining, and oil extraction, they have to obey the policy of the native communities. In the process of decisions, they should participate with a policy describing how they want to do the extraction. About the compensation: if there is a proper participation of the native communities, then, compensation is not needed.*

[31] The "Rio Protocol" refers to *The Protocol of Peace, Friendship, and Boundaries between Peru and Ecuador*, an international agreement signed in Rio de Janeiro, Brazil, on January 29, 1942, by the foreign ministers of Peru and Ecuador, with the participation of the United States, Brazil, Chile and Argentina as guarantors. The Protocol was intended to resolve the long-running territorial dispute between the two countries, and brought about the official end of the Ecuadorian-Peruvian War of 1941-1942

However, if there is no participation, then the use of wood or other outside product shall not be accepted. The State is interested in generating energy through rivers inside the Shuar territories. The solution for this is that the international agencies will have to meet with the native communities and come up with a common decision." [32]

Despite the peace agreement, there is considerable difficulty in movement and border crossings. Even for the ITTO research team, the procedures for travel remain complicated.

The community organizations have many ideas to improve cooperation through development efforts if some of these issues of access can be addressed. Another indigenous representative stated: "Since the peace agreement was signed there should be freedom to come and go, but there has been a strict control and they want to suspend such freedom. La Federación de Comunidades Huambisa del Río Santiago (FECOHRSA) dreams about the creation of an environmental services fund, but there is no capacity for economic and technical exploration. It should be added that the projects proposed should be of Wampís authority and prepared by the communities themselves." [33]

While the overall armed conflict has stopped, the implementation of various features of the peace agreement remain unfulfilled. The structural aspects of the peace treaty have also prevented the formation of a functional "peace park" where access to both sides of the order would be guaranteed. Instead of creating a shared zone, the peace treaty demarcated borders and established conservation areas as buffer zones (Figure 8). The operations of the Cordillera del Condor TBPA could be vastly improved if these commitments were met. (Figure 9)

Table 3 summarizes the outcomes that were stipulated in the peace agreement and the paucity of progress in that vein, compiled by Santiago Kingman for ITTO.

Table 3: Implementation challenges of the Ecuador-Peru Peace Agreement

Commitment of Peace Agreement	Status as of September 2010
The agreement on the freedom of coming and going, vehicles, See Going and Fluvial Vessels and Aircrafts;	The freedom of coming and going is not guaranteed through the simple use of an identity card. People must spend several hours in the military posts of the two countries and leave their documents. There is no migration, except by the armed forces in the basin of Santiago
The Convention on Traffic in Persons, Vehicles, Maritime and Fluvial and Aircraft	as above

[32] Respondent Ángel Nantip: Coordinador de Gestión Externa Comunicador del Pueblo Resident of Pueblo Shuar Arutan Date: July 15, 2010

[33] Kefren Graña, Presidente de FECOHRSA, Ruyer Chimpokat, Vice Presidente de FECOHRSA; Eliseo Chimshami, Tesorero de FECOHRSA, Comunidad de Kukuasa, Distrito del RSA FECOHRSA – Federación de las Comunidades Wampisas del Río Santiago

Commitment of Peace Agreement	Status as of September 2010
The Organizational Structure of the Bi National Plan for border areas and development	The Bi-National Plan was created, but it didn't manage projects, nor did it foment them with local organizations of the Cordillera del Cóndor
Agreement of Acceleration and Deepening of Free Trade between Ecuador and Peru	The free trade in the region has few prospects. The only thing that could develop is the sale of timber and non-timber forest resources
The Memorandum for Understanding on Electrical Interconnection	No observable implementation
The Ground Agreement for commissioning an improvement study for the Bi National Project for the transport of Hydrocarbons	An increase of the oil activity in the region is expected. For now there is only invitation for bids and in the south of Ecuador does not yet have hydrocarbon activity
Memorandum of Understanding for Strengthening the Mutual Cooperation in Tourism	No observable implementation
Memorandum of Understanding in Educative Cooperation	No observable implementation

In addition there is scant evidence of implementation of the Regulation of the Ecuadorian Peruvian Border Committees; The Programs of the Bi National Plan for border areas and development; The Comprehensive Peruvian Ecuadorian Agreement on Border Integration, Development and Neighborhood that includes as annexes the Rules of the Peruvian-Ecuadorian Neighborhood Commission.[34]

Considerable conflicts between large and illegal medium scale mining industry are also happening, especially in Ecuador, including the presence of armed groups. Conflicts of small and informal miners from Ecuador can also pass to the zone of Peruvian concessions. Conflicts in the El Quimi reserve of Ecuador are also gaining strength because the Shuar want to contest the activities of the Ministry of the Environment. Having clear mineral extraction zones as well as exploration guidance for artisanal miners could reduce the random impacts of mining.[35]

Ten years of support Fundacion-Natura-Ecuador and Conservation International (CI) under grant support from the Moore Foundation, aimed at the Shuar is an example of positive

[34] USAID has funded numerous efforts for collaborative development along the Peru-Ecuador border. See for example, *Assessment of the USAID Peru– Ecuador Border Region Development Program*

[35] Respondent: Santiago Kingman, Coordinador del Proyecto ITTO PD 238/03 Respondent reflecting the view of the communities Macas, Ecuador. August 3,2010

engagement with the population. A staff member for CI-Peru, stated, however, that "the resources and situation is different and it is not expected that the experience will be replicated, but that it will at least serve as a lesson learned for the Wampis and Awajún and for the institutions that wish to develop projects in their territories."[36] Furthermore, "understanding that the native peoples have ties that surpass the borders and that maintain the same plans and traditions apply for the natural resources implies a modernization, a secular process involving social and political terms and the construction of a unity where there are only families."[37]

While the conservation dimensions of the peace agreement are often downplayed in many policy analyses (Simonds, 1999)[38] there is a general feeling among practitioners that ITTO's involvement in this effort has greatly helped to continue the momentum towards transboundary conservation.[39]

Fundacio Natura officials in Ecuador believe that "there is no doubt that biodiversity conservation has helped to create a climate of greater confidence between states and peoples, and to resolve some conflicts among peoples. However, other disputes regarding the extraction of non-renewable resources, such as mining, are still alive and resources are still insufficient to resolve mining conflicts.[40]

As a pioneering effort to directly link conservation to conflict resolution in a violent border dispute, the Condor Case has become an important example for international diplomacy. However, the full potential for this agreement and ITTO's efforts at transboundary cooperation have yet to be realized. Addressing the concerns of indigenous communities, improving access across borders and regulating extractive industries will be key factors to ensure the efficacy of this project in reaching its goals of environmental peace-building.

3.6 Tambopata- Madidi Protected Area

General Overview

Madidi, Pilon Lajas, and Apolobamba in the northwestern Bolivian Andes and the adjoining areas of Tambopata and Bahuaja Sonene in Peru constitute a protected area of more than 15,000 square miles of tropical Andian forests (Figure 10), considered by many standards to be the most diverse region on Earth.[41] The project's strategy and activities focused on achieving the following:

1. Revision, consolidation and dissemination of the Economic Ecological Zoning (EEZ) process
2. Development of Master Plans for Protected Areas with the active participation of the local communities

[36] Respondent: Bráulio Andrade Conservación Internacional Perú
[37] Santiago Kingman, Coordinador del Proyecto ITTO PD 238/03 Macas, Ecuador, August 3, 2010
[38] For example, a study of the peace agreement conducted by the U.S. Institute of peace bare mentions the central role of establishing the national parks as means of conflict resolution. Instead the focus is on the process of mediation. See Simmons, 1999
[39] Respondent: Luis Espinel, Director Ejecutivo, Conservación Internacional Perú
[40] Respondent: Ruth Elena Ruiz, Fundacio Natura
[41] *The National Geographic Magazine,* March 2000; Vol. 197, No.3, page 2-23

3. Establishment of a monitoring and evaluation program with the participation of local communities to involve the local population in the nature conservation process and thus improve their quality of life
4. Design and implementation of a training, extension and dissemination program so as to adequately develop the actions envisaged in the master and monitoring plans
5. Development of management plans for forest resources and identification of sustainable resource processing alternatives for the market
6. Strengthening of the ongoing Peruvian-Bolivian technical coordination
7. Development of a work plan for Phase II of the project so as to ensure the continuity of the results obtained during the first phase.

The project's main objective was to generate and collect environmental and socio-economic information that will form the basis for the establishment of coordinated participatory processes between the two countries to ensure the planning and management of conservation areas and the development of sustainable economic alternatives within the System of State-Protected Natural Areas (SPNAs) of Tambopata – Madidi, which comprises the Tambopata Candamo Reserved Zone and the Bahuaja Sonene National Park in Peru and the Madidi National Park in Bolivia. This system constitutes the central axis of the Conservation Corridor stretching from the Apurimac Reserved Zone in Peru to the Isiboro-Securé Indigenous Territory and National Park in Bolivia.

The key achievements of this project, thus far, as compiled by the evaluation report to ITTO are as follows:

- Compilation of information related to the master plans on the Tambopata National Reserve and Bahuaja Sonene National Park was completed and cartographic data was incorporated into the metadata structure; The metadata structure and protocols for the integration, interchange and information management on protected areas, including transboundary thematic and cartographic cover of the project's area of influence and of the specific protected areas master plans, was developed and approved. This structure was presented to the Center for Biodiversity Conservation of the Andean Tropics as a contribution towards the systematization and interchange of information processes among the five member countries (Venezuela, Colombia, Ecuador, Peru and Bolivia)
- A Bi-national Technical Committee was created and met on several occasions to coordinate transboundary cooperation issues, develop the Binational Action Plan for the conservation of the transboundary protected areas
- A monitoring and control plan was developed. For the development of this plan, critical environmental and socio-economic variables were identified and plotted on a map overlaying present and potential conflicts with the strategic protection areas
- A socio-economic diagnostic was completed for the Apolobamba National Natural Area of Integrated Management (ANMIN), and a further 37 participatory communal workshops have been held in two of the 3 municipalities that share the ANMIN

- The master plan for the Tambopata National Reserve was expanded to include the micro-zoning of areas for direct communal use and the research program developed for the "La Nube" Biological Station. A methodology was defined for the communal management of natural resources, in particular those related to the sustainable harvesting of Brazil Nuts
- The value-adding processing of products was sought to ensure the highest income levels possible for the local communities. An Economic and Economic Zoning was carried out to facilitate preliminary analyses combining variables such as manpower availability, access to energy sources, production costs, and road infrastructure, among others and
- Based on the zoning exercise, collaborative management and business plans were developed for several communities for (i) processing the fruits of the Ungurahui palm (*Oenocarpus bataua*) (ii) production of thatched roofing material from the Palmiche palm (*Geonoma deversa*) (iii) harvesting of natural Cana Brava (*Gynerium sagittatum*) and (iv) implementing an ecotourism plan along the Malinowsky River.

Lessons

The local communities in the Tambopata - Madidi area, with a population of approximately 20,000, collaboratively developed management plans jointly within a Peruvian-Bolivian system of natural protected areas aimed at ensuring the conservation of biodiversity in the region. Given historical rivalries between Bolivia and Peru, the project has served as a vital tool in harmonizing sustainable use and conservation activities across the Bolivian-Peruvian border and in strengthening the collaborative management of the protected areas. The design phase of the project should be able to anticipate, in as much as possible, the potential changes in the environmental and socioeconomic context at both the national and regional levels, so as to not require substantial changes. Border patrol activities may need further coordination to allow for access to communities.[42] When there is a sudden political crisis, such as the recalling of the Peruvian ambassador from Bolivia in June 2009 over disagreements about the country's policy on indigenous people, the strength of a TBPA is tested. In this case, the arrangements for border cooperation were able to endure such a crisis and bode well for the future of the protected area complex.

[42] Respondent: Luis G. Espinel Cuba, Conservation International Peru, July 22, 2010

4. Conclusion and Policy Recommendations

This study has attempted to provide a broad comparative evaluation of the six key transboundary projects being conducted by ITTO. The report followed an ethnographic methodology of conveying views of practitioners and community members on the efficacy of these projects. Transboundary conservation is an emergent area for international activity and in this regard, support of projects in three different continents over the two decades is commendable. Conservation professionals have recognized this conservation ambition widely, as exemplified by the wide array of partners in the conservation community supporting these projects.

Trevor Sandwith, Director of Protected Areas for the International Union for the Conservation of Nature, and one of the earliest proponents of transboundary conservation notes:

> *"By focusing on transboundary forest conservation (already a subset of the broader suite of TBPA initiatives), ITTO allows a consideration of whether some of these forests would be better managed as protected areas, or which could be linked to protected areas in the regional landscape. Where a protected area exists only on one side of the border, ITTO's activities could foster more formal conservation status for areas that are not protected in the adjacent country, and by focusing on the forest ecosystem per se, may make the case for more effective connectivity of protection throughout the forest ecosystem including a range of governance types."*[43]

International organizations are still struggling to convince governments to think "ecoregionally" about their resource base. The performance of such areas should be gauged within the constraints of international norms on intergovernmental relations. The European Union is perhaps the first prototype of integrated governance along ecoregional dimensions and it is thus worth considering some of the guidelines that have emerged in this context. The Europarc Federation has developed seven questions for transboundary conservation that can be considered by proponents of future transboundary projects. These are:

1. Do the parks have a common vision for sustainable development in the region?
2. Is an agreement in place, which is signed by the parks or at political decision-making levels and which guarantees the continuity of the cooperation?
3. Does a joint work program exist, which defines the main areas of cooperation in the individual fields of work?
4. Are mechanisms for direct cooperation between protected area staff, the regular exchange of experience, and the implementation of joint meetings and decisions established?
5. Does observation of changes in parks' natural values through joint monitoring and the holding of regular exchanges of data take place?
6. Are steps taken to ensure that communication between the protected areas is not held back by language barriers?
7. Are joint transboundary projects in existence and has their financing been secured?

[43] Respondent Trevor Sandwith, Director of Protected Areas Program IUCN, via email September 18, 2010

Beyond these questions, lessons can be learned from the experience of engagement in a diverse array of regions. The key lessons that can be gleaned from the six cases surveyed in this report are as follows:

1. ***Demarcating the region for conservation value***: The first part of the planning phase of any TBPA should consider the conservation importance of a region based on ecological factors. Diplomatic means should be used where possible to convince neighboring states and communities to rezone areas that might be most ecologically and socially appropriate for the area. The Borneo case examples showed that such rezoning is possible while the Emerald Triangle case revealed the drawbacks of not considering such a prospect for the Dong Khanthung region in Lao PDR. This case also shows the importance of considering not only federal but provincial and local jurisdictions for action across international borders.
2. ***Resolve micro-conflicts before instituting conservation plan****:* Conservation has a checkered history among many communities who consider it a land-grab and this view can be even more acute in border areas where territorial security is further threatened. Resolving these disputes early on can build trust as exemplified from the Borneo case where a blockade against initial project work was transformed through early and continuous engagement and trust-building. Having a dispute resolution system incorporated in the conservation plans can be helpful as suggested by the experience in the African case studies.
3. ***Make livelihood prospects as they relate to migration part of the negotiations****:* TBPAs will be particularly vulnerable to the "jobs versus environment" narrative because of the threat of migration flows across borders. Hence, providing opportunities for improving aggregate livelihoods through considering cross-border synergies for jobs is vitally important. ITTO has the potential to further this goal through its partnerships with private companies in regions of operation in border communities. The Congolese projects showed how managed logging can border protected areas but the potential for livelihood generation in this and other cases has yet to be fully realized.
4. ***Negotiate access and communication during earliest phase of agreement****:* Peace treaties can resolve disputes but do not necessarily address issues of access without clear and consistent bureaucratic procedures. This in turn can hinder the cause of conservation as exemplified by the Cordillera del Condor case. Access across borders is a particularly sensitive issue for indigenous communities and deserves primary attention in the negotiation phase of conservation agreements. The Gabon-Cameroon case also showed that access to hold personnel meetings remains a challenge. Reliable communication is the most essential ingredient of trust-building and every effort needs to be made to ensure "open channels" for collaborative interactions.
5. ***Seek mediation and diplomatic leverage from "guarantor" countries and NGOs****:* TBPAs have historically been facilitated by international mediation, either through donor funds for technical support or more formally through mediation of peace treaty. The Condor case suggests the importance of "guarantors" in such processes. However, the guarantors need to remain engaged even beyond the signing of the agreement to ensure that progress is made on the ground in implementing the terms of the accord. Large international organizations and NGOs can also play such a role, though often with less overall leverage.

Transboundary conservation is an essential part of meeting the goals of ecological regionalism. Since natural systems transcend political borders, management approaches must also aspire to transcend physical and cognitive barriers. However, a pragmatic approach to transboundary conservation requires a precautionary approach to address local grievances and it is important to have an adaptive framework for operations. International agreements such as the Convention on Biological Diversity have within their programs of work a commitment to transboundary conservation. ITTO's initiatives have tried to follow such mandates with alacrity and continue to seek further opportunities for improvement. Considering the inertia within international systems, particularly in sensitive border regions, these projects reveal the rewards and the ongoing struggles in gaining legitimacy for global transboundary conservation.

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UNU-IAS Policy Report

Transboundary Conservation and Peace-building:

Lessons from forest biodiversity conservation projects

Saleem H. Ali, Ph.D.

Transboundary conservation has acquired greater significance in recent years as international treaties, such as the Convention on Biological Diversity (CBD), have included such projects in their program of work. Since 1990, the International Tropical Timber Organization (ITTO) has been involved in several conservation projects that spam international borders which broadly include the following ecoregions: Borneo rainforest (Indonesia, Malaysia); Central African rainforest (Gabon, Cameroon, Republic of Congo); Southeast Asian forest (Cambodia, Lao PDR, Thailand) and the Andean rainforest (Ecuador, Peru and Bolivia). This report provides lessons from these projects in terms of their potential for peace-building, which has been a stated goal alongside conservation. The analysis of six cases higlights the need to: (i) Demarcate the region for conservation value (ii) Resolve micro-conflicts before instituting conservation plan (iii) Make livelihood prospects as they relate to migration part of the negotiations (iv) Negotiate access and communication during earliest phase of agreement (v) Seek mediation and diplomatic leverage from "guarantor" countries and NGOs.

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