

Annexes

Annex 1

A Non-Exhaustive List of Regional and Global Conventions and Agreements and Organizations with Relevance for TBNRM

(Note: The endnotes provide references to Web sites containing texts on conventions and agreements or information on the listed organizations.)

Convention/ Agreement/ Organization	Year (opened for signing/adopted/ established)	Relevant sections/ notes
1. Regional Conventions, Agreements and Organizations		
African Convention on the Conservation of Nature and Natural Resources (Algiers) ¹	1968	Article V.2, Articles XIV.1 and 3 and Article XVI Focuses in general on the sustainable use and conservation of soil, water, flora and faunal resources and calls in particular for consultation between upstream and downstream parties regarding the joint development and conservation of shared surface or underground water resources to ensure that conservation and management of natural resources are treated as an integral part of regional development plans. It also calls for, where any national development plans are likely to affect the natural resources of another state, the planning state to consult with the latter; and stipulates rules regarding inter-state cooperation.
Comité Inter-Etats de Lutte contre la Sécheresse au Sahel (CILSS) (Inter-State Committee for the Fight against Desertification in the Sahel)	1973	CILSS had developed into a structure that plays an important role in West Africa concerning food security and natural resource management, as regards, for example, desertification. In 1999 ECOWAS and CILSS wrote an action program for West Africa and assigned a chapter to transboundary natural resource management focusing on protected areas, pastoral resources and transboundary transhumance, forests and fragile ecosystems (the humid and arid zones, mountain and mangrove areas). CILSS can provide

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Convention/ Agreement/ Organization	Year (opened for signing/adopted/ established)	Relevant sections/ notes
		proposals to national governments, but has no power of implementation. It comprises nine countries: Gambia, Guinea-Bissau, Cape Verde, Senegal, Mauritania, Mali, Burkina Faso, Niger and Chad.
Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African region ²	1981	Preamble, Article IV.1, Article IV.4 and Article XIII.3 Calls for cooperation among parties, joint action, collaboration with international organizations and NGOs, and shared research.
Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region	1985	Preamble and Article VI Calls for close cooperation, especially regarding migratory corridors.
Nairobi Convention for the Protection, Management and Development of Marine and Coastal Environment of the Eastern African Region ³	1985	Preamble and Articles X, XI, XIII, XIV, XV Calls for international cooperation on protection, management and development of marine and coastal resources through, for instance, establishing jointly protected areas; cooperation in combating pollution; and scientific and technical collaboration.
Southern African Development Community (SADC) ⁴	1992	Calls for protection of biodiversity; development, promotion and harmonization of policies and programs aimed at effective and sustainable utilization of natural resources; and development and harmonization of sound environmental management policies. The Southern African Development Co-ordination Conference (SADCC), the forerunner of the SADC, was established in April 1980.
Agreement on the Conservation of African-Eurasian Migratory Waterbirds ⁵	1994	Article III — d, f, h, I These articles call for the coordination of efforts, especially where wetlands extend over the area of more than one party; international cooperation for emergency situations; and joint research and monitoring.

Convention/ Agreement/ Organization	Year (opened for signing/adopted/ established)	Relevant sections/ notes
Intergovernmental Authority on Development (IGAD) ⁶	1996	IGAD is the authority superseding the Intergovernmental Authority on Drought and Development (IGADD), which was created in 1986 by the six drought-stricken countries of Djibouti, Ethiopia, Kenya, Somalia, Sudan and Uganda to coordinate development in the Horn of Africa, with Eritrea now as seventh member. Food security and environment protection is identified as one of three priority areas. It is recognized that the subregion has abundant natural and human resources that could be developed and exploited to achieve collective self-reliance where peace and security prevails, while preserving the natural resource base and environment. Within this priority area the IGAD aims to harmonize NRM policies and initiate and promote programs and projects to achieve regional food security, sustainable development of natural resources and environmental protection.
Conference on Central African Moist Forest Ecosystems (CEFDHAC, launched by the Brazzaville Declaration)	1996	Collaborative efforts to manage the forests of the Central Africa region; involves Burundi, Cameroon, Central African Republic, Democratic Republic of Congo, Equatorial Guinea, Gabon, Republic of Congo, Rwanda and São Tomé and Príncipe.
Yaoundé Declaration	1999	Calls for accelerating transboundary protected area development, adopting harmonized national forest policies, making concerted efforts to stamp out large-scale poaching, and promotion of national and subregional exchanges of experiences, research and information.
Convention on the Conservation of European Wildlife and Natural Habitats (Bern) ⁷	1979	Chapter IV – Article 10; Chapter V – Article 11a Calls for coordinating research and other efforts for migratory species, cooperating where possible. Focus is on European states that are party to the convention, but may provide relevant connections regarding shared migratory species.

Convention/ Agreement/ Organization	Year (opened for signing/adopted/ established)	Relevant sections/ notes
2. Global Conventions and Agreements		
Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar) ⁸	1971	Article 5, Objective 7.1 Calls for consultation on wetlands extending over territories of more than one contracting party or for shared water systems; identification of international and/or regional needs for managing shared wetlands and shared catchments; and developing and implementing common approaches.
Convention concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention) ⁹	1972	Global recognition and support of specified cultural and natural heritage sites—recently being applied to transboundary sites to a greater extent as well.
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) ¹⁰	1973	Provides a framework for international trade of species listed in the Appendices of the Convention.
Convention on the Conservation of Migratory Species (Bonn) ¹¹	1979	Article III – 4b, Article IV-4, Article V-5f, Article V-5k, Article V-5l Calls for the prevention of obstacles to migration; taking of action with respect to animal populations that periodically cross boundaries; maintenance of habitats in migration routes; coordinating antipoaching efforts and exchange of information.
Convention on Biological Diversity ¹²	1992	Preamble, Article 5, 14-1c, 15-2, 18-1, 10-5 Global cooperation regarding sustainable use of natural resources, biodiversity conservation and equity in benefit sharing; cooperation in areas beyond national jurisdiction and other matters of mutual interest; encouraging bilateral, regional, or multilateral agreements for activities affecting other parties; making genetic resources available to other parties; and scientific cooperation/joint research.

Convention/ Agreement/ Organization	Year (opened for signing/adopted/ established)	Relevant sections/ notes
The Malawi Principles for Ecosystem Management for the Convention on Biological Diversity	1998	Establishes a holistic and ecosystem-based approach to natural resource management—a key rationale for TBNRM initiatives. Principles state that managers should consider effects of activities on adjacent and other ecosystems, and involve all relevant sectors of society and scientific disciplines.
United Nations Framework Convention on Climate Change. ¹³	1992	Regional and subregional collaboration to combat elements that cause land degradation. Calls for NGO and international organizational support for developing countries.
United Nations Convention to Combat Desertification ¹⁴	1994	Provides international framework for the prevention of desertification and calls for international and NGO participation and oversight of internal and interstate projects.

1. http://www.fletcher.tufts.edu/multi/texts/african_convention.txt
2. <http://sedac.ciesin.org/pidb/texts/marine.coastal.west.central.africa.1981.html>
3. <http://sedac.ciesin.org/entri/texts/marine.coastal.east.africa.1985.html>
4. <http://www.sadc.int>
5. http://www.wcmc.org.uk/cms/aew_text.htm
6. <http://www.igadregion.org>
7. <http://www.nature.coe.int/english/cadres/berne.htm>
8. http://www.ramsar.org/index_key_docs.htm#conv
9. <http://www.unesco.org/whc/archive/convtext.htm>
10. <http://www.cites.ec.gc.ca/>
11. <http://www.wcmc.org.uk/cms/>
12. <http://www.biodiv.org/convention/articles.asp?lg=0>
13. <http://www.unfccc.de/>
14. <http://www.unccd.int/>

Annex 2

Analyzing Potential Transboundary Issues: An Illustration Using TBNRM Case Studies

Case Study A.2.1: “W” Park

The region spanning the contemporary convergence of the borders of Benin, Burkina Faso and Niger constitutes the “W” Parks complex in the Guinea savanna of West Africa. The French colonial administration first established the heart of this complex as a hunting area in the 1930s—and later, as protected areas in the 1950s. With independence, each new government created distinct services for the environment covering protected areas and wildlife. As a result, subsequent cooperation regarding parks management and the protection of common wildlife resources has remained very limited. There have been modest efforts at collaboration to ensure compatibility and complementary action in administration, local planning and efforts to conserve and use resources—but the driving forces have essentially remained national factors specific to each country.

There has, however, been increasing recognition of the transboundary impacts of resource management in these three countries. The nature conservation authorities have increasingly come to terms with the need to collaborate more closely on a common approach to the protected areas and adjacent areas to ensure sustainability and increase the environmental viability and cost effectiveness of management. As described in Section 3.2.1, elephants are unevenly distributed among the three countries—as a result of human pressures with direct consequences on the natural habitat in Niger and on the attractiveness of the parks in Benin and Burkina Faso for tourism. The three countries have come to agreement on legislation and measures to reduce poaching.

Infrastructure, government services, parks management, legislation and local administration vary significantly for each national park and the adjacent areas. For example, Burkina Faso has hunting areas licensed to private operators but has failed to successfully share benefits with local communities. The result has been disaffection and disagreements in these communities on the value of conservation. The government has reinstated pre-existing local rights to seasonal fishing in rivers in the park. In strong contrast, the services in Niger have barred all fishing and only recently authorized some hunting licenses for

birds and other small game. State officials responsible for the environment have met to agree on common positions that would avoid divergent practices among the three park areas that negatively affect the others.

The principal issues in this case, and the risks and opportunities associated with each are summarized in Table A.2.1. If one begins with some of the natural resource management issues, e.g., the competition for water and forage resources among wildlife, transhumant pastoralists and local communities, it quickly becomes apparent that there are social, economic, institutional and political impacts. Some of these can be addressed by national efforts in each of the countries—e.g., by ensuring the equitable flow of benefits at a local level. However, the risks and opportunities have transboundary impacts, and there is no means of separating all of these issues or of dealing with them in a country-specific manner. The matrix therefore reflects an interactive set of issues across sectors, and the imperative for both national and transboundary management actions either to avoid or mitigate an impact, or to create or enhance an opportunity. In the example of “W” Park, there is a real requirement to build the respective national capacities for natural resource management, and to undertake the planning for a strategic program to do this. At the same time, the issues resonate across the boundaries, and there would be a significant advantage in undertaking these activities collectively, which would build confidence and enhance cooperative management for some of the more difficult conflicts that have a transboundary nature.








After almost two decades of frequent contacts, consultations and regional meetings, the three countries have agreed on a regional program to improve “W” Park management. The European Union will provide external financing for the effort, which covers a broad field of issues from scientific research and information sharing to infrastructure and diversification of economic activities. Agreement on the program has been the result of considerable negotiation and the growing awareness in both government and civil society of the risks of no coordinated action, both in terms of growing conflicts over natural resources and the resources’ quality and availability.

In addition, the region is in the process of becoming a focal point for the application of international conventions to protected areas and biodiversity. The three national parks are in the process of becoming simultaneously transboundary sites for the Man and the Biosphere, Ramsar, and World Heritage Conventions. Responding to the opportunities and responsibilities that result from these classifications, with the accompanying regulation and monitoring, will constitute a force for more rigorous, complementary management mechanisms and measures.

The challenge for the new level of collaboration among the three countries will be coordination among government services, the development of an effective process for ensuring compatibility in law and administrative measures, and reaching agreement on

sharing responsibility for joint resources such as the maintenance of road infrastructure and tourist venues. The sustained impact and viability of the exceptional support offered by the European Union will depend on the political commitment and negotiations to satisfy the interests of each country. Building the financial mechanisms and autonomy necessary for future management will prove crucial to sustainability. The opportunity appears timely given the general recognition of the various threats to the parks. The overall context of progressive decentralization of powers to localized government empowers local actors including rural groups and creates an environment that is favorable to greater transparency in public affairs.

TABLE A.2.1 THREATS AND OPPORTUNITIES FOR TRANSBOUNDARY NATURAL RESOURCE MANAGEMENT IN “W” PARK

Issue	Risks and opportunities			Management implications	
	Benin (Be)	Burkina Faso (BF)	Niger (Ni)	National	Transboundary  Interdependent  One-way dependent
Natural resource	<ul style="list-style-type: none"> Poaching pressure results in elephants dispersing to BF and Ni (<i>transboundary natural resource and social impact</i>) Competition over use of water resources including dams and access to water for livestock and wildlife (<i>social and political impact</i>) 	<ul style="list-style-type: none"> Elephant density exceeds park carrying capacity (<i>natural resource impact</i>) Competition over use of water resources including dams and access to water for livestock and wildlife (<i>social and political impact</i>) 	<ul style="list-style-type: none"> Elephants degrade park area due to heavy pressures in riparian zone and restrictions curtailing their cross-border mobility. (<i>natural resource impact</i>) Competition over use of water resources including dams and access to water for livestock and wildlife (<i>social and political impact</i>) 	<ul style="list-style-type: none"> Improved surveillance needed in Be Measures need to be taken to counter long-term impacts of exceeding carrying capacity A better understanding is required of the composition and functions of biodiversity in all three components of “W” Park (there is a collaborative element to this national activity) Conservation planning in each country is required 	<ul style="list-style-type: none"> Managers perceive the need for cooperative planning of water points to distribute elephants more evenly  There is a need for compatible hunting laws and regulations to avoid unsustainable levels of use  There is an urgent requirement to reach agreement on dams and flow regimes of rivers 
Social	<ul style="list-style-type: none"> Herders move through park and bordering areas on annual transhumance in conflict with farmers, with extreme pres- 	<ul style="list-style-type: none"> Herders pass freely through national borders within the park and into the neighboring areas in order to escape conflicts with wildlife service in Be 	<ul style="list-style-type: none"> Herders move through park and adjacent areas on annual transhumance in conflict with farmers and wildlife service (<i>natural resource impact</i>) 	<ul style="list-style-type: none"> Need for adjudication building on local governance in areas bordering the parks complex in order to resolve conflict with 	<ul style="list-style-type: none"> Need for agreement on the best way to handle the transboundary impacts on water resources, which affect wildlife movement and transhumance  

sure on riparian habitats, forage and water resources (*trans-boundary natural resource impact*)

and Ni (*transboundary natural resource impact*)

farmers and consolidate herder rights to pasture and water

Economic

- Lack of equitable distribution of resources among countries, communities, private sector (this applies to all three countries)
- Opportunity to ensure better benefits from hunting from concession area southwest of park (*social impact*)

- Risk of unsustainable use of private hunting concessions adjacent to park, drawing animals from parks in each country (*natural resource impact*)
- Limited village benefit from hunting (*social impact*)

- Seasonal hunting of small game licensed in area immediately north of the park (the Tamou region)

- Negotiate and recognize the legitimacy of pasture and other natural resource access rights
- Ensure a more equitable flow of benefits from the transboundary hunting resource
- Generally secure the equitable distribution of resources among communities and private sector

- Ensure the equitable distribution of benefits from the use of shared resources ↻
- Harmonize hunting policies to remove distortions and transboundary impacts ↻
- Share responsibility for joint resources, e.g., maintenance of infrastructure ↻
- Plan an integrated tourism product area ↻

Institutional

- Little capacity to manage protected areas (*natural resource impact*)



- Little capacity to manage protected areas (*natural resource impact*)

- Few resources to manage protected areas (*natural resource impact*)

- Decentralize powers to localized government that includes rural communities and is a catalyst for greater transparency in public affairs
- Determine roles and responsibilities to ensure effectiveness, e.g., in antipoaching

- Jointly approach donors to finance a program to ensure compatible levels of capacity in the three countries ↻
- Introduce effective inter-sectoral and inter-agency mechanisms and agreements for natural resource management at the regional level ↻

TABLE A.2.1 (CONTINUED)

Issue	Risks and opportunities			Management implications	
	Benin (Be)	Burkina Faso (BF)	Niger (Ni)	National	Transboundary  Interdependent → One-way dependent
Institutional (continued)				<ul style="list-style-type: none"> operations or coordinated tourism development Clarify role of government officers and other actors on best practice for sustainable management Introduce effective inter-sectoral and inter-agency mechanisms and agreements for natural resources management 	<ul style="list-style-type: none"> Regional (and/or national): Establish financial basis for sustainability of management and autonomous mechanism for raising funds and making decisions
Political	<ul style="list-style-type: none"> Lack of transparency in government Resistance to changes in law and legislation to harmonize with the other countries (e.g., with regard to hunting season, fishing and so on) Conflicts, with most powerful groups appropriating resources with persistent problems for disadvantaged/excluded groups Perceived loss of national sovereignty in entering into transboundary agreements 			<ul style="list-style-type: none"> Broker political commitment and negotiations to satisfy the interests of each country Reinforce local democracy and governance with national and regional implications 	<ul style="list-style-type: none"> Joint applications for transboundary World Heritage, Ramsar and Biosphere Reserve status increases international focus on region 

Case Study A.2.2: The Maloti-Drakensberg Transfrontier Conservation and Development Area

The Maloti-Drakensberg mountains straddle the 300km-long border between South Africa and Lesotho, and represent a remnant of the Great Escarpment, rising to an altitude of 3482m, the highest point south of Kilimanjaro. The area is globally significant, with exceptional biodiversity and cultural resources. Component areas in South Africa have been listed as a Ramsar site, and as a World Heritage Site based on both cultural and natural criteria. The area is also highly significant as the major watershed and the source of most of the rivers in the subregion. Both Lesotho and South Africa are fundamentally dependent upon these mountains for their water resources, and ultimately their economic development.

The marginal agricultural land of the Natal Drakensberg and Lesotho occupied a geographically central, but politically marginal, position in the scramble for land in Southern Africa that took place in the nineteenth century. The distribution of people in and around the original mountain kingdom and the state of Lesotho is, however, crucial to these resources. The mountain ecosystem is fragile and the settlement of people in the higher reaches has had devastating consequences for both people and the environment. In South Africa, the policies of the apartheid government restricted certain communities to specific locations. In many cases these areas were of insufficient size or productivity to enable any sustainable form of land use, resulting in their general degradation and lack of development. Those areas adjacent to the mountains are among the most poverty-stricken in present day KwaZulu-Natal. In Lesotho, a pattern of transhumant livestock production has placed pressure on the grazing resources at high altitude during the summer months, especially through the injudicious use of fire, which respects no boundaries. Growing land hunger and a lack of alternative employment or economic opportunity have resulted in more permanent settlement and cultivation of high-altitude wetlands, a major threat to sustaining the quantity and quality of water production, as well as a direct threat to the area's globally significant biodiversity.

The changing political and economic relations between Lesotho and South Africa have had important impacts on joint natural resource management. Totally surrounded by South Africa, Lesotho has been heavily influenced by South Africa since independence in 1966. Although a destination for refugees from the apartheid policies, Lesotho cooperated with South Africa economically, and the official policy was one of peaceful coexistence during this period. The years of conflict within South Africa were reflected in the internal politics of Lesotho, with a division between those for and against collaboration with South Africa. A political standoff between the countries, which led to an economic blockade by South Africa in 1986, resulted ultimately in greater cooperation and the signing of the Lesotho Highlands Water Treaty, the establishment of a joint trade mission, and full

diplomatic relations in 1992. Following the political transformation in South Africa, President Mandela stressed the importance of good relations between the two countries. The growing involvement of the two countries in the Southern African Development Community (SADC) has led to greater interaction and collaboration at many levels. Friction remains, however, over persistent problems of livestock theft, drug smuggling and unresolved land claims. These activities have rendered certain areas difficult to govern, and have affected the viability of traditional farming practices on both sides of the border.

Economic ties and exchange, as well as the exploration of common development and tourism relationships, have grown in recent years. One example of the new relationship is the Drakensberg-Maloti Programme, which was initiated in 1982 at the request of the Lesotho Government as a collaborative effort between the two countries. Supervised by an Intergovernmental Liaison Committee, the program continued until 1993 when funding was withdrawn at a stage when most of the necessary baseline information had been collected, but without subsequently developing land-use planning and implementation strategies. Since that time, the authorities in each country have consulted with a range of role players including international donor organizations to maintain the initial momentum of the program. This has culminated in the preparation of a comprehensive proposal for a transfrontier conservation and development program supported by the Global Environment Facility, and the signing of a bilateral Memorandum of Understanding committing each country to a cooperative program to plan and develop this region strategically.







As with most large-scale conservation and development programs, there is an interplay of issues here (summarized in Table A.2.2). The recognition of the shared biological and cultural resources and the risk of their degradation initiated the transboundary discussions. From the point of view of biodiversity conservation and resource management, the program promotes the concept of a transboundary protected area with a potential for development as a transboundary World Heritage Site. It also envisages ecosystem linkages across the boundary to ensure that priority conservation areas effectively represent globally significant biodiversity. Although major parts of this program could be undertaken at a national level, the areas of richest biodiversity and the underlying ecosystem are inherently transboundary in nature.

It is, however, the broader regional economic development agenda that is the major driving force for the program. From a natural resource management perspective, the only viable alternative to continued degradation of natural resources is to develop economic alternatives to subsistence agriculture. Large tracts of the area are under communal land tenure, but with a relatively recent history of exploitation. There is an urgent need to understand the degree to which this ecosystem can sustain livelihoods and to exchange lessons between the countries on range management, local governance for natural resource management, and co-management agreements. The involvement of local communities in the management of existing protected areas (and the establishment of new ones),

as well as in the implementation of effective management programs to counter the threats of alien plant invasives and soil erosion, is crucial.

Without a major economic driver, it is unlikely that the obstacles to sustainable natural resource management can be overcome. The economic development potential of the area based on developing and marketing the transboundary area as a global tourism destination is indeed possible if the investment gap can be narrowed by substantial government support for infrastructure. The realization has led to the identification of the area by both countries as a candidate for rapid investment in the form of a Spatial Development Initiative, which can build on the political will and commitment of the bilateral agreement. The transboundary program consequently demands a high level of cooperation, capacity building and technical support for strategic planning. This will ensure that development goals are achieved in a way that is acceptable to and benefits local communities while ensuring that the area's natural and cultural resources are protected and sustained.

TABLE A.2.2 THE RATIONALE FOR TRANSBOUNDARY NATURAL RESOURCE MANAGEMENT IN THE MALOTI-DRAKENSBERG MOUNTAINS SHARED BY THE KINGDOM OF LESOTHO AND THE REPUBLIC OF SOUTH AFRICA

Issue	Risks and opportunities		Management implications	
	Kingdom of Lesotho (Les)	South Africa (SA)	National	 Transboundary Interdependent  One-way dependent
Natural resource	<ul style="list-style-type: none"> • Degradation of high altitude wetlands and grazing resources (<i>social and economic impact</i>) • Unsustainable burning regime, with uncontrolled fires crossing boundary into South Africa (<i>natural resource and economic impact</i>) • Lack of protected area systems that represent globally significant biodiversity • Poor management infrastructure for nature conservation in Sehlabathebe National Park and new protected areas 	<ul style="list-style-type: none"> • Alien plant invasions threaten biodiversity and are very expensive to remedy (<i>economic impact</i>) • Artificially accelerated erosion is caused by human activities • Rock art heritage is threatened by human and environmental factors (<i>social impact</i>) • The uKhahlamba-Drakensberg Park has been declared a World Heritage Site and Ramsar site 	<ul style="list-style-type: none"> • Enhance conservation management plans for component protected areas (Les and SA) • Establish new protected areas for irreplaceable components of globally significant biodiversity • Enhance management of protected areas (Les and SA) • Prepare species recovery programs for priority species (Les and SA) • Develop protected-area management infrastructure (Les) 	<ul style="list-style-type: none"> • Develop common strategic vision and implementation program for transboundary area  • Develop compatible information and knowledge-building capacity  • Develop compatible land-use zonation across international boundary  • Develop compatible resource management programs and implement these cooperatively, e.g., for fire management 
Social	<ul style="list-style-type: none"> • Experience with participatory range management and protected area man- 	<ul style="list-style-type: none"> • Disparities caused by previous government policies result in stark contrasts in 	<ul style="list-style-type: none"> • Prepare integrated development plans with full involvement of 	<ul style="list-style-type: none"> • Transfer experience of high-altitude rangeland management from

agement approach
(*natural resource impact*)

- Human encroachment into globally significant and fragile mountain environment (*natural resource impact*)

socioeconomic development across the landscape
(*economic and natural resource impact*)

stakeholders (SA and Les)

- Enhance community conservation programs in communal land areas (Les and SA)

communal areas in Lesotho to similar area in SA →

- Share approaches to local level institutions ↻

Economic

- Transhumance pastoralism leads to tragedy of the commons (*natural resource impact*)
- Few alternative economic opportunities to sustainable use; high levels of poverty (*social and natural resource impact*)
- Huge potential for tourism development in the highlands (Les)

- There is potential to accelerate the development of tourism industry based on key attractions
- There is an opportunity to contribute to sustainable development of economically marginalized areas based on accelerated tourism development (*natural resource impact*)

- Undertake capacity building for entrepreneurial development and involvement in tourism (Les and SA)

- Develop an internationally significant transboundary tourism destination (The Roof of Africa) with linked marketing and development between SA and Les ↻

Institutional




- Fragmented institutional arrangements for highland region (*natural resource impact*)
- Nature conservation activities limited to one national park (*natural resource impact*)

- Risk of fragmented institutional arrangements for nature conservation and land-use and development control (*natural resource and economic impact*)
- Local board model provides opportunity for direct involvement of communities in protected area management (*social impact*)

- Develop Community Conservation Forums (Les) and Local Boards for Protected Areas (SA)
- Harmonize nature conservation legislation and management over national and subnational jurisdictions (SA)
- Establish an effective nature conservation agency (Les)

- Seek bilateral agreement and manage a transboundary steering committee of key stakeholders in each country ↻
- Prepare joint nomination proposal for world heritage and Ramsar status for transboundary area ↻
- Leverage transboundary capacity building for improved natural resource management →

TABLE A.2.2 (CONTINUED)

Issue	Risks and opportunities		Management implications	
	Kingdom of Lesotho (Les)	South Africa (SA)	National	 Transboundary Interdependent  One-way dependent
Political	<ul style="list-style-type: none"> Political instability remains unresolved (<i>social and economic impact</i>) 		<ul style="list-style-type: none"> Foster cooperation between national and provincial levels of government, and with local government structures (SA and Les) 	<ul style="list-style-type: none"> Foster political reconciliation and cooperation between Lesotho and South Africa 

Case Study A.2.3: The Virunga-Bwindi Mountain Gorilla Population

Mountain gorillas live in the afro-montane forests astride three countries—the Democratic Republic of Congo, Rwanda and Uganda. These forests are divided into two forest blocks—the Virunga Volcanoes and Bwindi—that are separate ecological units. Within the Virungas, where the borders of the three countries meet, there are three contiguous national parks and there is a fourth park at Bwindi in Uganda. The conservation of the population of endangered mountain gorillas is thus under the mandate of three national protected area authorities. The national parks are interlinked; their viability is essential to the survival of the gorillas.

The International Gorilla Conservation Programme (IGCP) has been working in the Virunga-Bwindi region in Central Africa since 1991. The program is conducted by a coalition of three international NGOs: the African Wildlife Foundation (AWF), Fauna and Flora International (FFI) and World Wide Fund for Nature (WWF). IGCP's mission is the conservation of mountain gorillas and regional afro-montane forests shared by the three countries. While much of its work is done in support of the three protected area authorities, it has a mandate from the authorities to work on transboundary issues that pertain to gorilla conservation.

Prior to the arrival of IGCP, the four parks were managed as separate entities by the national protected area authorities. Very high human population density, human encroachment, poaching, deforestation and civil unrest threaten the forest habitats, and these threats come from all sides and across the borders. It has been recognized that only by addressing these threats from all sides can the habitat be effectively protected.

Table A.2.3 summarizes the issues involved in considering this transboundary program. The perilous state of the gorilla populations has catalyzed intervention and, to some extent, the focus on gorillas and the expansion of related tourism have resulted in strengthened capacity for nature conservation. The transboundary program has identified a range of social, economic and political as well as institutional factors that must be addressed simultaneously with the natural resource management ones. Politically, the area is highly unstable, with two countries at war with the third—thus creating an extremely difficult context for collaborative programs. In addition, the large-scale movement of refugees has had enormous deleterious consequences for biodiversity and natural resources. In this situation, the ability of the program to operate nationally, while maintaining a transboundary perspective, has ensured that cooperation developed among the three protected area authorities is not completely lost. Indeed, the trust and understanding built among the three administrations for the parks is one seed to nurture as a basis for a lasting peace in the region.

IGCP has worked with the national protected area authorities toward transboundary regional conservation using a number of different strategies to establish non-conflictual

management practices for full collaboration. The choice of strategies has been based on the needs, opportunities and constraints in the region. The fact that the incentives and benefits, along with the costs of effective management, are comparable in the three countries has meant that strong synergy and similar approaches could be developed for the overall program. The emphasis has been on effective conservation at the field level, building gradually toward the recognition and institutionalization of these approaches into formal mechanisms and agreements at political levels.

The Virunga-Bwindi case is illustrative of the need to evaluate the rationale for undertaking some form of transboundary program or collaboration. IGCP has essentially focused on national level interventions by creating capacity in each of the three countries. It has therefore not been necessary for the three countries themselves to attempt to establish a transboundary program. As the national activities have progressed, the transboundary impacts of the program have become more obvious, as has the need for specific areas of collaboration. IGCP has played the role of facilitator for international cooperation and brokered political agreements to ensure commitment to transboundary natural resource management. It also has been able to identify the opportunities for social and economic development. These are enhanced by a stronger regional focus, which the three countries might not have achieved independently. Ultimately, the enhanced opportunities from a joint program have catalyzed negotiations for the more formal establishment of a transboundary protected area supported by political agreement among the countries.

TABLE A.2.3 THE RATIONALE FOR TRANSBOUNDARY NATURAL RESOURCE MANAGEMENT IN THE VIRUNGA/BWINDI PROTECTED AREA COMPLEX SHARED BY UGANDA, THE DEMOCRATIC REPUBLIC OF CONGO AND RWANDA

Issue	Risks and opportunities			Management implications	
	Uganda (Ug)	Democratic Republic of Congo (DRC)	Rwanda (Rw)	National	Transboundary ↻ Interdependent → One-way dependent
Natural resource	<ul style="list-style-type: none"> • Shared afro-montane forest with DRC and Rw. World Heritage Site in Ug • Mobile gorilla population that crosses borders (<i>economic impact</i>) • Effective law enforcement of mountain gorillas requires coordination (<i>institutional and social impact</i>) • Forests are important in terms of biodiversity and species endemism and have critical ecological role as important watershed and in controlling soil erosion in adjacent areas under agriculture; also non-extractive multiple use underway (<i>social, economic and political impact</i>) 	<ul style="list-style-type: none"> • Shared afro-montane forest with Ug and Rw. WHS in DRC • Mobile gorilla population that crosses borders (<i>economic impact</i>) • Effective law enforcement of mountain gorillas requires coordination (<i>institutional and social impact</i>) • Forests are important in terms of biodiversity and species endemism and have critical ecological role as important watershed and in controlling soil erosion in adjacent areas under agriculture; also non-extractive multiple use underway (<i>social, economic and political impact</i>) • Little forest remains outside of parks—so 	<ul style="list-style-type: none"> • Shared afro-montane forest with DRC and Ug. Newly proposed WHS in Rw • Mobile gorilla population that crosses borders (<i>economic impact</i>) • Effective law enforcement of mountain gorillas requires coordination (<i>institutional and social impact</i>) • Forests are important in terms of biodiversity and species endemism and have critical ecological role as important watershed and in controlling soil erosion in adjacent areas under agriculture; also non-extractive multiple use underway (<i>social, economic and political impact</i>) • Little forest remains outside of parks—so 	<ul style="list-style-type: none"> • Protected area authorities to ensure regional-compatible management policies 	<ul style="list-style-type: none"> • Cooperate to secure landscape-level strategy for shared afro-montane forest ecosystem ↻ • Cooperate to manage the shared single population of endangered mountain gorillas ↻ • Threats to biodiversity operate in all three countries with transboundary impacts and only common and cooperative approaches can resolve this ↻ • Establish a compatible ranger-based monitoring system and means of integration with management ↻

TABLE A.2.3 (CONTINUED)

Issue	Risks and opportunities			Management implications	
	Uganda (Ug)	Democratic Republic of Congo (DRC)	Rwanda (Rw)	National	Transboundary ↻ Interdependent → One-way dependent
	<ul style="list-style-type: none"> • Little forest remains outside of parks—so forests viewed as a source of resources and arable land (<i>social, economic, institutional and political impact</i>) • Very few families displaced establishing the park 	<ul style="list-style-type: none"> • forests viewed as a source of resources and arable land (<i>social, economic, institutional and political impact</i>) • Very few families displaced establishing the park • Pressure and damage from war/refugees has led political, humanitarian and conservation agencies to work together and build expertise (<i>social and institutional impact</i>) 	<ul style="list-style-type: none"> • forests viewed as a source of resources and arable land (<i>social, economic, institutional and political impact</i>) • Very few families displaced establishing the park 		
Social	<ul style="list-style-type: none"> • Decades of repression inhibited national economic development (<i>economic impact</i>) • Co-management arrangements with local communities exist for gorilla-based 	<ul style="list-style-type: none"> • Decades of repression inhibited national economic development (<i>economic impact</i>) • Continuing war from 1996 to date (<i>natural resource, economic and institutional impact</i>) 	<ul style="list-style-type: none"> • Decades of repression inhibited national economic development (<i>economic impact</i>) • War from 1990 to 1994 and problems with insurgency to date (<i>natural resource, economic and institutional impact</i>) 	<ul style="list-style-type: none"> • Institutional arrangements for participation by communities and local government can be strengthened 	<ul style="list-style-type: none"> • Experience of participatory management in Ug can be shared with Rw and DRC → • Build on the common history and social groupings for regional cooperation ↻

- tourism (*institutional and social impact*)
 - Participation by communities and local authorities has been implemented for several years (*institutional impact*)
 - Jobs created inside and outside protected area linked to NRM activities (*economic impact*)
- Jobs created inside and outside protected area linked to NRM activities (*economic impact*)
 - Strengthened social involvement in participation in NRM (*natural resource and economic impact*)

Economic

- Gorilla-based tourism can cover costs of park management, and contribute significantly to park authority budget and development of national economies at all levels (*natural resource, social, institutional and political impact*)
 - Regional conflict has negatively affected tourism and park revenues (*social, natural resource and institutional impact*)
 - Benefit-sharing mechanisms have been developed (*social and natural resource impact*)
- Gorilla-based tourism can cover costs of park management, and contribute significantly to park authority budget and development of national economies at all levels (*natural resource, social, institutional and political impact*)
 - Regional conflict has negatively affected tourism and park revenues (*social, natural resource and institutional impact*)
 - Mechanisms to avoid crop damage by gorillas have been identified and are
- Regional conflict has negatively affected tourism and park revenues (*social, natural resource and institutional impact*)
 - Gorilla-based tourism can cover costs of park management, and contribute significantly to park authority budget and development of national economies at all levels (*natural resource, social, institutional and political impact*)
 - Benefit-sharing mechanisms being developed (*social and natural resource impact*)
- Ensure that benefit-sharing mechanisms are enabled
 - Ensure full involvement of local communities in entrepreneurial opportunities
- Promote the regional growth of tourism based on protected areas to the benefit of all three countries ↻
 - Establish a common set of principles and rules for the management of tourism in each country ↻
 - Extend experience on management of gorilla crop damage to neighbors →
 - Consider the development of a joint trust fund for financing transboundary activities ↻

TABLE A.2.3 (CONTINUED)

Issue	Risks and opportunities			Management implications	
	Uganda (Ug)	Democratic Republic of Congo (DRC)	Rwanda (Rw)	National	Transboundary ↻ Interdependent → One-way dependent
	<ul style="list-style-type: none"> • Mechanisms to avoid crop damage by gorillas have been identified and are being implemented (social impact) • Tourism has the potential to negatively impact gorillas through disease and disturbance (<i>natural resource impact</i>) 	<ul style="list-style-type: none"> • being implemented (<i>social impact</i>) • Tourism has the potential to negatively impact gorillas through disease and disturbance (<i>natural resource impact</i>) 	<ul style="list-style-type: none"> • Mechanisms to avoid crop damage by gorillas have been identified and are being implemented (<i>social impact</i>) • Tourism has the potential to negatively impact gorillas through disease and disturbance (<i>natural resource impact</i>) 		
Institutional	<ul style="list-style-type: none"> • Parastatal has appropriate mandate and structure for effective conservation management and tourism within the parks 	<ul style="list-style-type: none"> • Parastatal has appropriate mandate and structure for effective conservation management and tourism within the parks • No regular income owing to war and therefore no payment of salaries for conservation staff (<i>natural resource and economic impact</i>) 	<ul style="list-style-type: none"> • Parastatal has appropriate mandate and structure for effective conservation management and tourism within the parks 	<ul style="list-style-type: none"> • Regional NGOs collaborate to support national, but compatible activities in the three countries • Promote accession to international conventions • Strengthen the national capacity to implement effective nature conservation management in all three countries 	<ul style="list-style-type: none"> • Harmonize nature conservation laws and policies in the three countries ↻ • Use international conventions to provide a consistent framework for concerted conservation action ↻ • Foster field-level cooperation among the four protected areas making up the complex ↻

- Conduct training nationally within transboundary framework
- Strengthen links and coordination between park authorities and parent ministries
- Establish common communication protocols and a compatible radio system in all three countries ↻
- Compatible training system established ↻
- Enable joint approaches to funders to ensure appropriate funding allocated to each component of the transfrontier complex ↻

Political

- Regional instability due to conflict and rebel action (*natural resource, social and economic impact*)
- Regional instability due to conflict and rebel action (*natural resource, social and economic impact*)
- Effect of conflict on civil society has curtailed livelihoods as there is no market economy and little legitimate employment; people harvest resources from the park illegally to survive (*natural resource, social, economic, and institutional impact*)
- Regional instability due to conflict and rebel action (*natural resource, social and economic impact*)
- Problems with insurgents from DRC (*social, economic and institutional impact*)
- Foster cooperation between park authorities and existing forms of government and the military
- Promote the adoption of a transboundary TBNRM agreement involving all three countries ↻
- It is imperative to forge closer political commitment to the transboundary program to sustain field-level cooperation in the long term ↻

