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Security Considerations in the Planning and Management of Transboundary Conservation Areas

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Leo Braack, Trevor Sandwith, David Peddle and Thomas Petermann

IUCN/WCPA Task Force on Transboundary Conservation with support from InWEnt

InWEnt
Internationale Weiterbildung und Entwicklung gGmbH
Capacity Building International, Germany

InWEnt – Internationale Weiterbildung und Entwicklung (*Capacity Building International, Germany*) – is an organisation for international human resource development, advanced training and dialogue. InWEnt was established through a merger of the *Carl Duisberg Gesellschaft* (CDG) e.V. and the *German Foundation for International Development* (DSE) and can draw on decades of experience in international co-operation. Its practice-oriented programmes are directed at experts, managers and decision makers from business and industry, politics, government agencies, international organisations and civil society from all over the world. Its Development Policy Forum organises high-ranking, informal policy dialogue on current issues of development policy.

IUCN Task Force for Transboundary Conservation. The World Conservation Union (IUCN) through its World Commission on Protected Areas (WCPA) established a Transboundary Conservation Task Force to contribute towards a global programme on transboundary conservation. The Task Force consists of a group of volunteer specialists from many parts of the world, most of whom are involved in transboundary conservation programmes. The Task Force initially developed a set of guidelines for managers and other professionals, entitled *Transboundary Protected Areas for Peace and Co-operation* including some preliminary definitions and a draft code for the management of transboundary protected areas (TBPAs) in times of peace and armed conflict. Informed by a series of regional initiatives around the world, the Task Force has promoted the concept of a Global TBPA network which will coordinate and support the efforts of TBPA managers into the future. By linking TBPA sites, managers and resource materials through an internet site called www.tbpa.net, the global network assists transboundary conservation initiatives to share lessons learned and to disseminate information, and provides a primary information resource to managers and researchers.

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Based on workshops conducted in southern and eastern Africa in 2002 and 2003

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Cover photos: Front: Delegates to a Transboundary Conservation and Development workshop in Moshe, Tanzania, shake hands at the Kenya-Tanzania border, committing to explore opportunities for greater collaboration and joint management on issues of common concern. © *Leo Braack*

Back: (clockwise from upper left): Historically enemies as part of a bitter war during Apartheid years, soldiers from Mozambique and South Africa now shake hands across the border of the two countries. Major stretches of this fence have now been torn down to achieve the conservation and tourism objectives of the Great Limpopo Transfrontier Park; Major bodies of water, such as this one in Tanzania, are often critical resource nodes for migratory species along their travel routes, without which the entire migration would collapse. Understanding such critical needs at regional level, and how to accommodate such regional needs, is essential if we are to ensure long-term viability not only of individual species but of entire systems; Stakeholder participation is a critical and essential key in developing successful solutions to problems; here rural communities are being consulted about their opinions and suggestions; Africa is home to magnificent herds of large ungulates such as zebra and wildebeest, but they require extensive areas for long-term viability. Transboundary Protected Areas are an ideal approach to satisfy the spatial needs of such species, but it requires coordination of disease control measures, impact on humans and livestock, hunting impacts, tourism opportunities, all best addressed by small international committees meeting to discuss such issues of mutual concern. © *Leo Braack*

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Foreword

A map of the world, or of any continent (except Australia), is a patchwork quilt of countries of various sizes and shapes. Sometimes they have boundaries that make geographical sense. Other times, the boundaries are straight lines, imposed by colonial powers centuries ago. Today, territorial integrity is a foundation principle of the relations between governments, but even so, boundary conflicts are still unresolved in many parts of the world. This book demonstrates how transboundary conservation initiatives can help to defuse boundary conflicts, and sometimes even solve them. But given the hundreds of transboundary protected areas, some variability in management approaches is to be expected, and is even appropriate. Often, it is a matter of balancing national security with the undoubted benefits of having free transboundary movement of tourists between protected areas on either side of a national border.

This book discusses management and security considerations that should be foremost in the minds of those who are responsible for transboundary conservation areas. One of the major advantages of such areas is that the effective size of protected areas is greatly expanded, thereby increasing both populations and potential species numbers, as the larger a protected area is, the more species it is likely to contain. Yet the free movement of species across international boundaries also poses some problems. While animals can certainly not be expected to recognize what country controls the vegetation they are browsing or the tree in which they are perching, they may also be carrying some problems with them, such as diseases like avian influenza or foot-and-mouth-disease. And invasive alien species that have become established in a protected area in one country may expand their populations into another, thereby providing management challenges to both parts of a transboundary conservation area. This book contains suggestions on how to address such issues.

But most protected areas are much more about addressing the needs of people than they are about managing wildlife. Border areas are often remote, and boundaries may have been superimposed upon the historical lands of various communities who are anxious to be re-united. This offers both an opportunity and a challenge to national security, and to protected area managers. In other situations, lawless elements in these remote areas can cause serious transboundary problems, as when tourists were kidnapped from Uganda and taken into the Democratic Republic of the Congo several years ago. Ways of resolving conflict, even armed conflict, therefore need to be incorporated in the management approaches to transboundary conservation areas.

Areas located in remote areas on international borders are also likely to be of particular interest to those seeking to address poverty issues. People living far from the capital cities and in habitats of high biodiversity may be excluded from the mainstream of development, through simple neglect or remoteness. Such areas therefore become targets for development, in seeking to address the poverty reduction targets of the Millennium Development Goals. Development agencies, agricultural agencies, veterinary authorities, and many others also have an interest and need to be included in conservation management programmes in such remote boundary areas.

The security challenges will often require close coordination between the military, police, intelligence agencies, and immigration and customs authorities on both sides of the boundaries. Such agencies are likely to have a history behind their relations, perhaps significantly affected by a transboundary protected area. The better their respective activities are coordinated, and the more open the lines of communication, the more successful the transboundary conservation area is likely to be.

It may seem that transboundary conservation areas are more trouble than they are worth, and should instead be used as a sort of "security buffer", as Kruger National Park between South Africa and Mozambique was used for so many years. But the conversion of Kruger from a security buffer into a transboundary protected area demonstrates how a problem can be converted into an opportunity, providing multiple benefits to many parts of society in the countries involved, but also raising new expectations and unforeseen consequences.

This book is an extremely practical and important contribution to encouraging more countries to participate in the establishment and management of transboundary conservation areas. As such, it is a most welcome addition to the

body of practice for today's protected area managers and others involved in these efforts. The sound advice and guidelines it contains now need to be put into practice, and we hope that many agencies, both national and international, will see the wisdom of supporting such efforts. Both conservation and peace among peoples can be promoted through investing in putting these guidelines into practice.

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13 February 2006

Acknowledgements

These guidelines have benefited considerably from the discussions and inputs of delegates who participated in a series of five workshops on transboundary conservation in Southern and Eastern Africa during 2002 and 2003, and the IUCN/ITTO International Workshop on Transboundary Conservation held in Thailand during February 2003. The contents aim to capture the insights of these meetings and make them available to a wider audience of transboundary conservation practitioners. The authors express their gratitude to all these participants and the communities and organisations they represent who shared their own experiences, concerns and ideas, thereby enriching the discussions for all involved. Further information on these workshops is available on the IUCN WCPA Global Transboundary Network's website **www.tbpa.net**. The list of participants is included in Appendix 3.

Our thanks are also due to Roland Stein and Marloes van Amerom who read and made valuable comments on a draft version of this Guide. Roland Stein and Margaret Sandwith contributed to the preparation of boxes to illustrate case study material. Margaret Sandwith also undertook the editing and verification of the manuscript, and the completion of the bibliographic references and suggestions for further reading.

Abbreviations and acronyms

ASEAN	Association of South-East Asian Nations
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DSE	Deutsche Stiftung für Entwicklung (German Foundation for International Development)
EAC	East African Community
EMPRES	Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases
Interpol	International Criminal Police Organisation
InWEnt	Internationale Weiterbildung und Entwicklung Gemeinnützige Gesellschaft (*Capacity Building International*), a merger of DSE and Carl Duisberg Gesellschaft e.V.
IUCN	The World Conservation Union
MEDEVAC	A military acronym for "medical evacuation"
MoU	Memorandum of Understanding
NATO	North Atlantic Treaty Organisation
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organisation
SADC	Southern African Development Community
TBCA	Transboundary Conservation and Development Area
TBPA	Transboundary Protected Area
TFCA	Transfrontier Conservation Area
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNHCR	United Nations High Commissioner for Refugees
WCPA	World Commission on Protected Areas

1. Introduction and definitions

1.1 Introduction

The term "security" broadly relates to "*a condition of being protected from or not exposed to danger, being safe*" (Oxford English Dictionary). One of the purposes of protected areas and other areas for the conservation of biodiversity is to maintain conditions of security that would enable the areas to persist and sustain effective management in the long term. Dangers or threats to this persistence or sustainability may take on many forms, and include not only direct physical threats in the form of poaching, refugee invasions, unsustainable fishing or other resource use, inappropriate fire regimes, invasive alien species and pollution from neighbouring areas, but also long-term threats such as lack of sustainable financing and public support for conservation, poor government, inadequate disease containment (including diseases affecting wildlife and diseases transmitted by wildlife, and many other indirect risks) (Braack, 2004).

While all of the above risk elements are valid subjects for discussion under the theme of "security", the scope of this Guide is to consider the specific context of conservation programmes that straddle the boundaries between nations. Transboundary conservation initiatives have a specific set of risks that are associated with co-operative management and the movement of people and animals across international boundaries. We wish to highlight not only the value of transboundary co-operation in resolving security problems that impact protected areas that adjoin international boundaries, but also to guide managers in addressing the specific issues that the initiation and development of transboundary conservation initiatives create for the "security community". The "security community" is defined loosely as the whole set of actors on either side of the border that have a role to play in promoting and maintaining security. In this way we hope to improve both the practice and effectiveness of transboundary conservation programmes in meeting their conservation and development goals.

The rationale for transboundary conservation programmes is more comprehensively dealt with elsewhere (for example, see Sandwith *et al.*, 2001; van der Linde *et al.*, 2001), and the discussion in this Guide is limited to highlighting key concepts and working definitions that will assist the reader. The Guide's main focus is to identify the key security risks and considerations that the proponents and managers of transboundary conservation areas should consider when planning and implementing these programmes. It recognises the key stakeholders, including sectors and interests that do not usually have close contact and interaction with the conservation community, and proposes a means to improve these relationships. It goes on to guide the architects of transboundary conservation programmes to include security considerations in the international agreements that provide the mandate for implementation, and shows how to conduct security planning processes. Finally, it considers the very real need of capacity-building for transboundary security operations, and discusses both the need for monitoring and evaluation of progress and the lessons that have been learned through implementation in some of the newer transboundary conservation areas.

The experience that has led to the development of this Guide has been derived largely from work in southern and eastern Africa. It has been attempted, however, to draw on specific case studies from around the world and therefore the Guide should find application in every other part of the world where transboundary conservation initiatives are being applied, and in both terrestrial and marine habitats. In fact, if it stimulates discussion and invites comment and refinement, it will have met its primary purpose, which is to raise awareness of the issues, and begin the process of defining best practice.

1.2 Some introductory concepts and definitions of transboundary conservation

The rationale for transboundary conservation is broad-ranging, and includes the primary purpose of the Convention on Biological Diversity – "the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources". It is recognised that this effort has to include both large-scale ecosystem-wide approaches, and much smaller-scale focused interventions. It is also

recognised that this necessitates work in protected areas[1] and in areas within the wider production landscape. In particular, ecosystems span political and institutional boundaries, necessitating consideration of a variety of forms of governance in dealing with communities, local government, non-governmental organisations and the private sector. When ecosystems are juxtaposed with international boundaries it is also necessary to deal with issues of national sovereignty, international obligations and the increased complexity of co-operation in their management.

The "ecosystem approach"[2] seeks to address the fundamental cause of loss of biodiversity, namely habitat destruction and fragmentation, at the landscape scale. Rapidly expanding human populations and demand for resources, particularly over the past 100 years, has resulted in protected areas becoming islands in a sea of development. This isolation has resulted in the disruption of large-scale ecosystem processes such as migration or nutrient cycling, that affects the long-term persistence of biodiversity in these areas. The conservation community has recognised the consequences of habitat loss and fragmentation and has embraced efforts to create corridors and linkages to improve the resilience of these disrupted ecosystems, in addition to its programmes on protected areas. In many cases, these areas straddle international boundaries, resulting in transboundary conservation initiatives. These landscape-scale initiatives include bioregional conservation programmes such as WWF's ecoregions, Conservation International's hotspots and wilderness areas.

Examples of existing transboundary conservation areas are the Waterton-Glacier International Peace Park (USA, Canada), the Great Limpopo Transfrontier Park (Mozambique, South Africa, Zimbabwe), the Lanjak-Entimau Betung Kerihun Transboundary Conservation Area (Malaysia, Indonesia), Antarctica (beyond the jurisdiction of any individual nation), the Turtle Islands Heritage Protected Areas in the Sulu Sea (Malaysia, Republic of the Philippines), La Ámistad (Costa Rica, Panama), and the High Tatras/Tatrzanski National Parks (Slovakia, Poland).

Waterbodies at the edge of conservation areas are often competed for by wildlife and domestic stock, creating tensions and security considerations which need to be managed, especially if located near international boundaries. © *Leo Braack*

A recent IUCN publication (Sandwith *et al.*, 2001) revealed that by 2001 the number of potential transboundary protected area complexes had risen to 169, involving no less than 666 separate but closely adjunct protected areas. Another recent study (Hall-Martin and Modise, 2002), commissioned by the Regional Tourism Organisation and Development Bank of Southern Africa, identified a minimum of 21 existing or potential transfrontier conservation

[1] "An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means" (IUCN, 1994).

[2] The "ecosystem approach" is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. A very useful resource on the ecosystem approach is given at www.biodiv.org/programmes/cross-cutting/ecosystem/default.shtml [October 2006].

areas within southern and eastern Africa, representing a total area in excess of 400,000 km^2. Three of these (Kgalagadi, Great Limpopo, and Ai Ais Richtersveld) have already been formally established through international agreements, and another five are in various stages of planning or implementation. Efforts are now being pursued on virtually every continent and on the high seas to engage in transboundary conservation to achieve collaborative management of adjoining conservation areas through the use of harmonised management plans.

In addition to biological goals, transboundary conservation areas have other rationales and purposes. These may include sustainable natural resource management, cultural and community exchange across national borders, tourism, trade and other forms of economic development. Their purpose may also be to help establish peace or to commemorate the maintenance of peaceful co-operation among neighbouring states, whether or not there has been a history of conflict. The variety of purposes and contexts, both geographical and political, and the variety of methods of implementation have resulted in a fascinating array of examples of transboundary conservation in practice. Despite this variety, there is a basic and simple set of types that practitioners have come to recognise. It is apparent that transboundary conservation manifests itself in a variety of forms depending upon the specific national, regional, cultural, political, economic and institutional context as well as the purpose for which the area is promoted.

A suite of types can be recognised which are described in Box 1.1. The overall concept is that of Transboundary Natural Resource Management (TBNRM), which describes the process of interacting across national boundaries for the sustainable management of natural resources. Bearing this in mind, the most general definition, namely a Transboundary Conservation and Development Area (TBCA), captures the twin concerns of conservation taking place within a context of regional development, and the juxtaposition and linkage of protected areas in a production landscape straddling an international boundary. It is synonymous in the eastern and southern African context with Transfrontier Conservation Area (TFCA), but this terminology is not global in application.

Nested within these broader types is the specific situation where two protected areas are both internationally adjacent and engaged in some form of co-operation. This situation is referred to globally as a Transboundary Protected Area (TBPA) but may have many other local names, including Transboundary Park or Transfrontier Park. Essentially, the component areas should conform with the definition of a protected area adopted by the World Conservation Congress (IUCN, 1994).

Some areas also have an explicit peace objective and these are sometimes referred to as Parks for Peace or Peace Parks. It should be noted that the term "Peace Park" is used very loosely around the world, and includes situations where there is no biodiversity conservation objective, nor indeed any transboundary co-operation.

To avoid some of the uncertainty associated with the different application of terms in different parts of the world, we have adopted for purposes of this Guide the term Transboundary Conservation and Development Area (TBCA) as described in Box 1.1, to be the most inclusive term.

Box 1.1 Terminology associated with transboundary initiatives

Transboundary Natural Resource Management Area (TBNRM Area)
These are areas in which co-operation to manage natural resources occurs across boundaries (Griffin *et al.*, 1999). It should be noted that this concept does not necessarily involve any formal protected areas and the emphasis falls mainly on the processes by which natural resource management can be sustained in the region straddling an international boundary.

Transboundary Conservation and Development Area (TBCA)
These are areas, which may or may not include protected areas, which straddle one or more borders between states. The constituent parts form a matrix that contributes to the protection and maintenance of biological diversity, and of natural and associated cultural resources, as well as the promotion of social and economic development. They are managed co-operatively through legal or other effective means. TBCAs are represented diagrammatically in Figure 1.1.

Cont.

Box 1.1 Terminology associated with transboundary initiatives (cont.)

Transfrontier Conservation Area (TFCA)
These are essentially the same concept as TBCAs above, reflecting the southern African regional usage of the term "transfrontier". The Southern African Development Community (SADC) defined these as "an area or component of a large ecological region that straddles the boundaries of two or more countries, encompassing one or more protected areas, as well as multiple resource use areas" (SADC protocol on wildlife conservation and law enforcement, 1999).

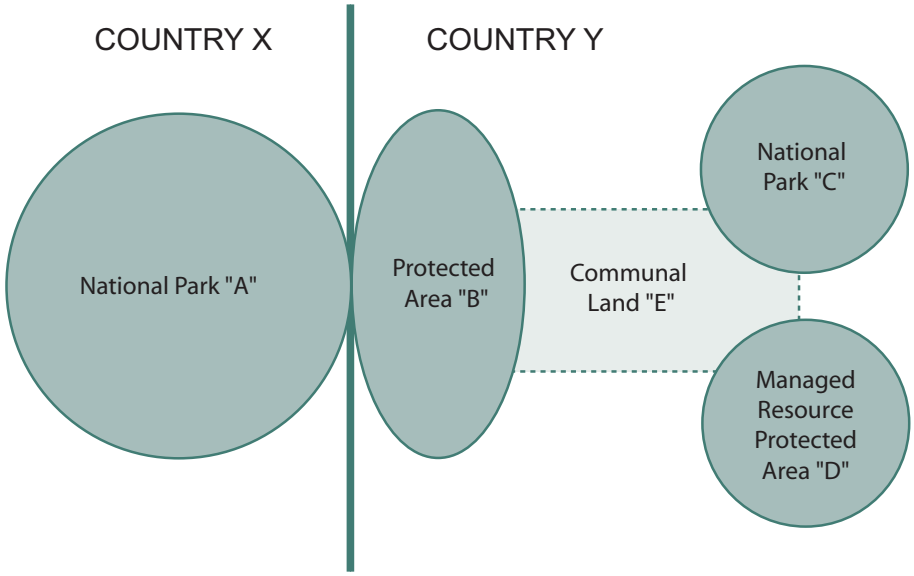
Transboundary Protected Area (TBPA)
An area of land and/or sea that straddles one or more boundaries between states, sub-national units such as provinces and regions, autonomous areas and/or areas beyond the limits of national sovereignty or jurisdiction, whose constituent parts are especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means (Sandwith *et al.*, 2001). TBPAs are represented diagrammatically in Figure 1.1. Specific instances are Transboundary Biosphere Reserves and Transboundary World Heritage Sites which can be designated by UNESCO.

Transfrontier Park (TFP)
Essentially the equivalent of a TBPA, implying that all or most of the areas comprising the jointly-managed Transfrontier Park are high-status formal protected areas, usually of National Park status, with perhaps one or more smaller areas serving as linking corridors.

Parks for Peace
Parks for Peace are transboundary protected areas that are formally dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and to the promotion of peace and co-operation (Sandwith *et al.*, 2001).

Stakeholder consultation is a good opportunity to explore perspectives which ultimately lead to a far more robust and acceptable outcome to any planning exercise, with more defensible majority consensus. © *Leo Braack*

Figure 1.1 Diagrammatic representation of different kinds of transboundary linkages



"A" + "B" = Transboundary Protected Area (Transfrontier Park)

For a functional conservation linkage between "A" + "B" + "C" + "D" it will be necessary to forge a linkage through a multiple land-use corridor "E"; such a mixed-use complex is usually called a Transboundary Conservation and Development Area (also=Transfrontier Conservation Area).

1.3 Guidance for transboundary conservation initiatives

Despite the excellent opportunities that TBCAs present for promoting biodiversity conservation, tourism and also socio-economic development, there is still a shortfall of coordinated facilitation and guidance on the processes and mechanisms associated with their planning, establishment and management. Although the first formally declared TBCA linkage is generally accepted as the Waterton-Glacier International Peace Park (USA, Canada), with collaborative management agreements established between the two in 1932 (de Villiers, 1999), only a slow trickle followed this initial example until the 1990s when an international spate of TBCA development commenced. Even now, many of the lessons are being re-learned in different regions as a result of inadequate contact and exchange between the areas and managers involved.

The IUCN/WCPA Task Force on Transboundary Protected Areas was established in 1997 to remedy this. Products of this work, supported by several international donors including the World Bank, the Italian Government and Conservation International, included the 2001 publication in the IUCN/Cardiff Guidelines Series of *Transboundary Protected Areas for Peace and Co-operation* (Sandwith *et al.*, 2001). The Biodiversity Support Programme, a collaborative effort of WWF-US, The Nature Conservancy and the World Resources Institute funded by USAID produced a series of situational analysis reports and guidance specifically dealing with transboundary conservation in sub-Saharan Africa (see for example van der Linde *et al.*, 2001; Griffin *et al.*, 1999). While published guidance is useful, and has found application in many instances around the world, there remains a need for capacity-building which is more interactive, including structured exchanges among professionals. InWEnt, together with the IUCN/WCPA Task Force on Transboundary Protected Areas has convened a series of workshops to address specific themes within the transboundary context and to derive furthermore specific guidance on priority topics (Petermann *et al.*, 2002). This Guide is a direct consequence of this expressed need.

In relaxed mood, delegates from several southern African countries gather at the border between Kruger National Park (South Africa) and Limpopo National Park (Mozambique), a border region with significant security concerns including transboundary poaching, smuggling, and illegal movement of migrants. © *Leo Braack*

2. Key security considerations for transboundary conservation

2.1 Introduction

The establishment of TBCAs is generally aimed at achieving improved understanding and sustainability in natural resource management practices across international boundaries. This implies greater communication and co-operation, leading to enhanced collaboration and even joint decision making. This must be contrasted with the concept of national sovereignty, where nation states determine their own domestic policies and programmes without interference. The achievement of transboundary objectives must transcend the narrow issues of national sovereignty, while not compromising national security (Box 2.1).

Box 2.1 TBCAs do not equal "no man's land"

A TBCA initiative is often a source of immediate concern to immigration, defence and police departments when first approached about their involvement. It is important to make it clear that each country retains full sovereignty and all rights and responsibilities in respect of the TBCA. It should be pointed out that the functions of these departments could be considerably enhanced as a result of the increased communication and information-sharing. The expertise and co-operation of these departments is essential in ensuring that appropriate management and control mechanisms are instituted as well as the harmonisation required to achieve conservation and development goals.

Even though the development of TBCAs does not imply the loss of national sovereignty, at a very practical level, transboundary conservation can imply a "softening" of existing controls which include, for example:

- removing barriers to the free movement of wildlife across the international boundary;
- improving access of tourists to constituent parts of the TBCA;
- establishing transboundary working groups, steering committees and joint commissions aimed at enabling joint decision making;
- facilitating the interaction of communities living on either side of the international boundary.

Some of these changes are illustrated in Figures 2.1(a) and 2.1(b).

While apparently positive and innocuous, TBCAs can generate security concerns including:

- international relations and diplomatic protocols;
- immigration and emigration;
- customs and excise controls;
- defence;
- crime prevention, detection and prosecution;
- health and safety;
- disease transmission in humans and animals;
- alien invasive species;
- land restitution.

Figure 2.1(a) Before establishment of TBCA

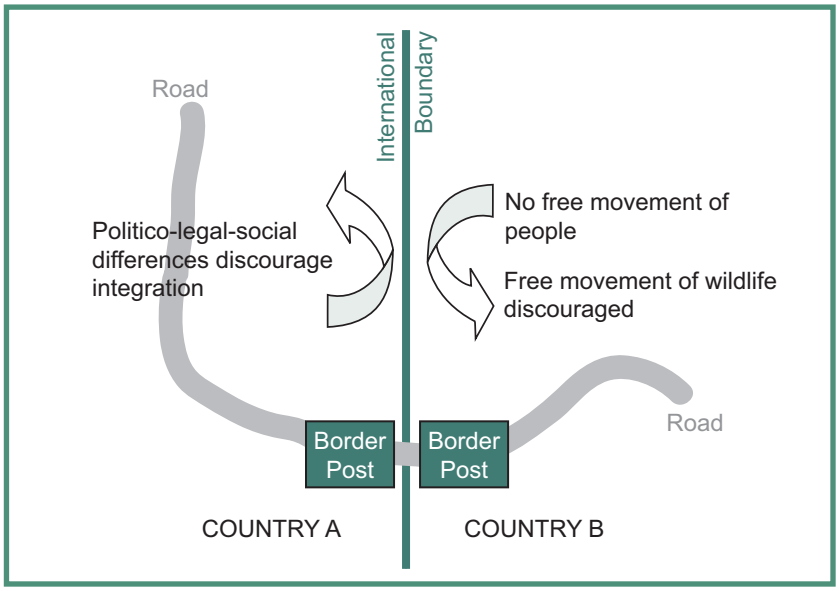
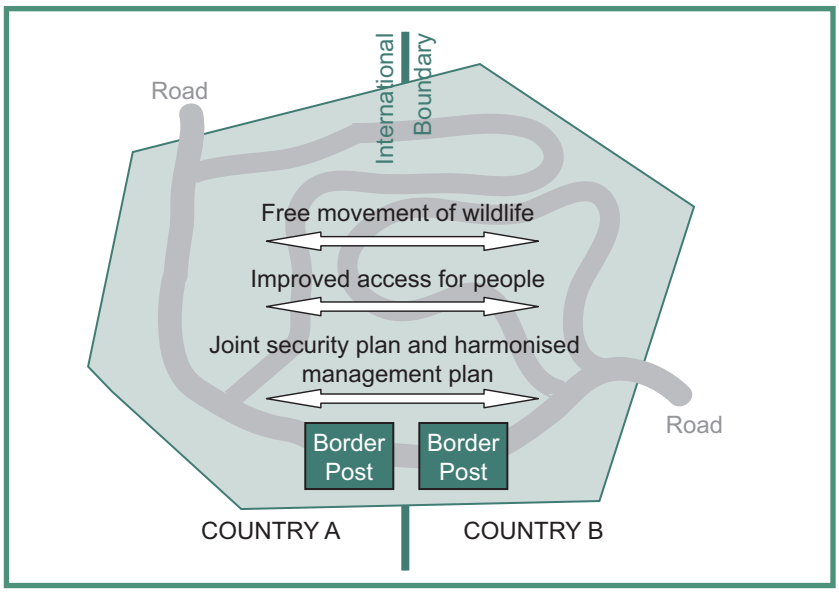


Figure 2.1(b) After establishment of TBCA



These issues and concerns have to be addressed if the programmes are to be successful. Since biodiversity conservation is often at the core of TBCA initiatives, nature conservation personnel frequently are at the forefront of their development. They may however be unaware of the direct or indirect implications of their proposals for the wider security community. While the TBCA may actually be aimed at reducing the complexity of conservation and tourism management in the TBCA, it can create layers of complexity and risk for other sectors.

The purpose of this chapter is to highlight the key considerations that the proponents of TBCAs should take into account in the planning and development of such initiatives. It also identifies who the likely role-players will be and indicates how they should be involved from the outset. In particular, it addresses the needs of the security community, including conservation, local government, traditional authorities, military, police, customs, intelligence and veterinary authorities. Their effective involvement from the earliest stages of planning will ensure the success of the programme beyond implementation into the future whereas failure to engage the whole security community can result in unnecessary delays or even failures in implementation.

2.2 The implications of transboundary conservation initiatives for national security in the transboundary conservation area

As described above, the planning, development and management of TBCAs result in a number of proposals, initiatives and activities that have implications for national security for participating countries and for security within the TBCA. Proposals that have commonly been made in relation to TBCAs are discussed below, and their security implications explored for general application in TBCA development programmes.

2.2.1 Removal of international boundary fences

In many parts of the world, barriers have been established to demarcate international boundaries in order to restrict the movement of people, or to control the movement of domestic and wild animals. Restrictions on the latter are to enforce veterinary and health regulations to control the spread of wildlife diseases such as bovine tuberculosis, foot-and-mouth-disease, east coast fever and brucellosis to domestic animal populations.

An initiative suggested when developing TBCAs is the removal of international boundary fencing in order to:

- restore freedom of movement of wildlife populations, e.g. elephants;
- remove the visual barrier in the landscape and thereby signify the co-operation inspired by the TBPA;
- restore habitats impacted by clearings or patrol roads at boundaries.

These suggestions have the following security implications:

- Movement of vehicles and people along former patrol roads is enabled;
- They can disperse the movement of contraband or people across the border through the removal of single entry points;
- The detection of illegal movement is impeded (cuts or breaks in fences often indicate vulnerable spots);
- The location of the border is obscured and this can complicate the jurisdiction of authorities in either country in the prosecution of crimes, particularly where the regulatory regime differs markedly.

Various mitigating measures can be implemented by the security community to overcome insecurity including the:

- control or closure of access roads to the international boundary;
- retention of sections of fencing in priority areas (see the example given in Box 2.2);
- maintenance of visible boundary markers signifying the location of the international boundary;
- control of immigration/emigration via TBCA access points (see 2.2.2 below).

Discussions regarding international boundary demarcation should include defence, police and intelligence authorities, personnel dealing with immigration, customs and foreign affairs, veterinary and plant disease authorities, as well as those responsible for the control of alien invasive species.

2.2.2 Access points and transport routes to and within the TBCA

Entrance gates and road systems are key infrastructure in most conservation areas and provide the primary means to effect management and to control activities in the area. Different levels of access to a TBCA may be required to achieve security management objectives particularly where countries are not members of a customs union or regional agreement such as in the European Union. The relationship between TBCA access points and border access becomes a key consideration in the control of movement of people between countries.

The implementation of a TBCA may involve:

- relaxing complicated immigration procedures for management and visitor access to the TBPA;
- controlling visitor numbers and densities;
- establishing additional entrance gates and access points to the TBCA;
- rationalising border control points at either a single point within or at the periphery of the TBCA.

These suggestions have the following security implications:

- Information gathering by security forces regarding the movement of people within the area and between the two countries becomes more difficult;
- Control of illegal activities within the TBCA, e.g. poaching, is compromised;
- TBCA staff are unable to establish if visitors or other travellers have broken down or are lost;
- Collection of entrance fees or other revenues may be compromised;
- Collaboration in the establishment of a rational border control post within the TBCA is dependent on the willingness and ability of the countries concerned.

The security community can implement mitigating measures, such as:

- control or closure of access roads to the international boundary;
- implementing a limited number of entrance gates and control points through which vehicle and visitor movement can be monitored;
- maintaining a well-managed and standardised transboundary communication system that can relay messages throughout the TBCA and between access points in order to verify visitor bookings, payments and movements;
- the establishment of a joint information management system.

The question of rationalised border control facilities has provoked much debate, and requires extensive involvement with the immigration authorities in each country. Where there is a regional agreement, the options may be simpler than in instances where border controls are extremely strict. A hypothetical case is presented in Figures 2.2(a) and 2.2(b) which illustrate some of the dimensions of this debate. Box 2.2 outlines the discussion that took place in the Great Limpopo Transfrontier Park.

Box 2.2 Why "peripheral border posts" were not acceptable in the case of the Great Limpopo Transfrontier Park (Mozambique, South Africa, Zimbabwe)

Mozambique and Zimbabwe were willing to implement peripheral border posts but the concerns of security departments in South Africa prevented this option being implemented. This arose because the 19,000km^2 Kruger National Park in South Africa has a road network of over 2,000km, much of it infrequently-used patrol roads or fire-breaks which reach to the western boundary and allow unrestricted access to the South African interior. South African security authorities considered that this posed a risk of illegal entry which could facilitate the movement of arms or drugs into the country. This necessitated the establishment of two internal border posts (Pafuri and Giriondo) situated along the international border between the countries within the TBCA.

In Fig 2.2(a) where there is an existing border control point, which is now incorporated into the TBCA, travellers must comply with the immigration and customs requirements of each country before proceeding. In this case, it is not permitted to cross the border at any point other than the official border post and travellers move through a narrow corridor between the two facilities. Where fences and other barriers are removed, wildlife can move freely throughout the TBCA.

In Figure 2.2(b) border posts are relocated to the perimeter of the TBCA. This has the advantage of creating an unrestricted zone of movement for both people and animals throughout the TBCA. This is feasible where the TBCA is completely bounded so that movement from one country to another can only be achieved through the perimeter border posts. This second option has considerable advantages for tourism as it reduces the inconvenience to visitors who do not wish to proceed into the neighbouring country, but who will return to the country of origin.

A third option exists where a "one-stop" border control post, shared by the two countries, is established at a point either on the perimeter or within the TBCA. This option would have to be negotiated by the parties concerned.

Figure 2.2(a) **Existing border posts within the TBCA, facilitating free movement of animals, but restricting vehicle movement to a corridor between facilities**

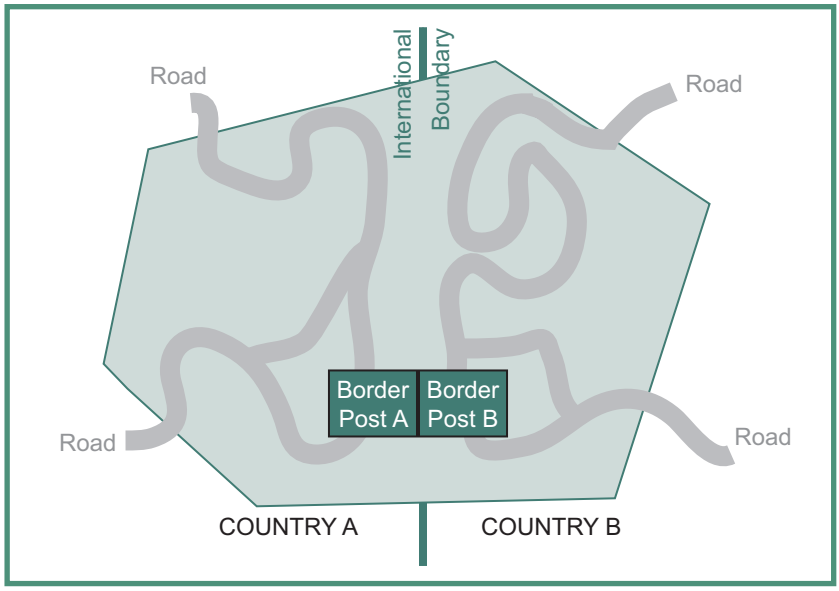
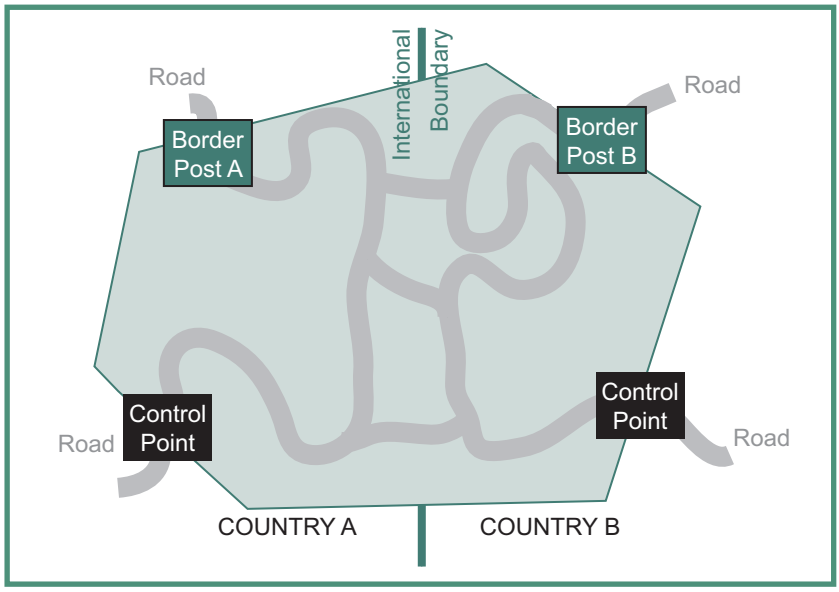


Figure 2.2(b) **Border posts established on the perimeter of the TBCA, facilitating free movement of animals and vehicles within the TBCA**



The establishment of a TBCA may also require the establishment of new border controls where none previously existed. In this case, the TBCA developers would have to engage with the security community to determine the most practical option that would satisfy both TBCA objectives and the needs of the security and conservation communities. In all cases, the question of border controls is a major concern of the security community, and should not be neglected when planning and developing TBCAs.

International agreements entered into between countries along the migratory paths of birds necessitate commitments and responsibilities to safeguard the passage of such birds. Potential disease transmission by migratory species, such as Bird Flu, requires appropriate security elements, in particular monitoring, to be built into agreements for international collaboration. © *Leo Braack*

2.2.3 Control of visitor access, movement and safety

A primary motivation for the establishment of TBCAs is to enhance the attractiveness of a destination and to promote tourism that will generate returns to the local and regional economy. A jointly marketed tourism destination promises visitors a diverse experience drawing on the resources of two or more countries in one place.

A key consideration is the safety and comfort of visitors. This has a marked influence on their perceptions of the area and will ultimately impact on the long-term viability of the TBCA as a tourism destination. Tourist safety can be compromised by the situation of these destinations in border zones. For example there may have been conflict in the past, or there may be existing conditions of insecurity, such as active smuggling or refugee situations.

The implementation of a TBCA may involve:

- providing access to visitors throughout the TBCA, including the use of walking trails (trekking) or vehicle tracks in remote areas;
- providing access for adventure sports such as river-rafting, mountaineering, kayaking, scuba diving;
- developing new facilities for overnight accommodation.

These suggestions have the following security implications:

- There may be anti-personnel mines in border areas;
- There is a need for sophisticated rescue facilities;
- The possibility of visitors becoming stranded in remote areas is increased;
- There is a need to secure facilities against arson, theft and accidental damage.

The security community can implement mitigating measures, such as:

- contributing to tourism planning processes to ensure that security considerations are incorporated into visitor-use zonation plans;
- conducting de-mining operations;
- restricting access in areas where the threat of landmines is known or uncertain;

- providing armed escorts where visitors may be threatened by insurgency or rebel forces;
- establishing effective and compatible communication systems;
- developing and implementing adequate search and rescue procedures appropriate to the activities being undertaken, e.g. mountaineering, kayaking;
- production and use of joint marketing materials that clearly indicate the degree of relaxation of border controls.

2.2.4 Participation and involvement of local communities

Current national boundaries not only intersect natural ecosystems but in many cases have divided communities into different countries under completely different political regimes. One of the values of a TBCA proposal is that once-divided communities may be re-united and kinship ties restored. The high-level decision-making that TBCA programmes demand may however disempower communities and introduce new threats to the composition, status, opportunities and safety of the local communities and their way of life. In some cases, nature conservation authorities may be regarded as successors to authorities that negatively affected local communities in the past.

The implementation of a TBCA may involve:

- enabling better communication and access to communities on either side of the border;
- enabling trade and other employment opportunities for local entrepreneurs;
- enhanced consultative, advisory or decision-making structures;
- inclusion of community lands in the TBCA.

Communities on the other hand, may perceive the TBCA as:

- providing more open access to the area from which they may have originally been displaced when the protected areas were established;
- displacing their current way of life, especially if greater movement of mega-herbivores or predators is introduced;
- offering increased access to decision-making structures and other positions of power;
- offering increased opportunity for employment or entrepreneurial activities;
- marginalising ethnic groups or languages.

These suggestions have the following security implications:

- Communities will be resentful if access is denied or restricted without adequate communication and understanding;
- Rights and duties could be perceived to have been overshadowed by the magnitude and power of the TBCA process;
- Animals threaten lives and damage property;
- Sections of the community are marginalised by and excluded from planning and decision-making processes;
- Access to opportunities is distorted resulting in community conflict;
- Perceptions of nature conservation authorities as continuing practices that impacted local communities negatively.

It will therefore be necessary for the security community, in consultation with local communities, to implement mitigating measures, such as:

- establishing effective consultation and involvement in decision-making regarding proposals that affect the lives and livelihoods of local communities;
- implementing clearly understood and supported programmes regarding legitimate access to natural resources;
- ensuring effective measures to avoid conflict with animals, e.g. fencing villages, fields and grazing lands;
- providing compensation or other relief for damage which occurs;
- enabling enhanced employment opportunities, including possibly preferential selection of local community members to fill vacancies;

- redressing the marginalisation of border communities through effective capacity-building and enabling effective participation in the opportunities that the TBCA provides;
- placing the community at the centre of concern with a rights-based approach to planning, development and management of the TBCA.

2.2.5 Harmonisation of laws and regulations affecting the TBCA

The implementation of a TBCA may involve:

- applying wildlife regulations or anti-poaching measures throughout the TBCA;
- arresting and prosecuting offenders;
- applying the provisions of international conventions or protocols, such as the Convention on Biological Diversity, Convention on Trade in Endangered Species, the World Heritage Convention, or the Convention on Migratory Species;
- seeking compatible Environmental Impact Assessment procedures which take TBCA status into consideration;
- reaching agreement on an overall development plan for the TBCA.

These suggestions have the following security implications:

- Relevant legislation in a partner country may not be in place, e.g. no species-specific legislation may exist because prior to the implementation of the TBCA programme some animal species may not have been present;
- Disparities in dealing with offences may lead to offenders taking advantage of a less stringent set of rules, increasing the vulnerability of the TBCA;
- Differing application of the management provisions of conventions, such as CITES, may expose compliant countries to the risk of downgraded status, with implications for trade;
- Security personnel may be unable to pursue offenders across a border or to effect an arrest in the adjacent country;
- Extradition agreements or mechanisms may not be in place.

Box 2.3 Regional agreements facilitate TBCA processes

Many international conventions, treaties and other legal instruments facilitate transboundary collaboration, and the developers of TBCAs should be aware of them and their provisions. For example, Article 3 of the SADC (Southern African Development Community) Protocol on Wildlife Conservation and Law Enforcement, signed in Maputo in 1999, stipulates that "*State Parties shall co-operate with other Member States to manage shared wildlife resources as well as any transfrontier effects of activities within their jurisdiction or control.*" The Protocol makes further provision to enable participating countries to comply with commitments that support the objectives of TBCAs, including harmonising of legislation and co-operation in transboundary law enforcement.

The Treaty for the Establishment of the East African Community (1992) lists a series of commitments for member countries to address regional peace and security, including (para 3): "*The Partner States shall evolve and establish regional disaster management mechanisms which shall harmonize training operations, technical co-operation and support in this area…*" and also (para 5): "*The Partner States agree to enhance co-operation in the handling of cross-border crime, provision of mutual assistance in criminal matters including the arrest and repatriation of fugitive offenders and the exchange of information on national mechanisms for combating criminal activities…*".

These and other provisions can be of great assistance to the developers of TBCAs in these regions.

The security community can implement mitigating measures, such as:

- establishing a task force to examine the provisions of legislation in each country in order to identify aspects that require amendment, such as the introduction of specific regulations or comparable penalties;
- co-operating to ensure accession to and ratification of key conventions and their provisions (see Box 2.3);
- forging agreements to overcome legal disparities, e.g. agreements regarding cross-border pursuit and arrest;
- concluding extradition agreements.

Box 2.4 Promoting regional transboundary co-operation between Germany and France in the Upper Rhine Valley

The Upper Rhine Valley is a core area of experimentation in the field of bilateral co-operation between German and French police and judicial systems. One of the main promoters and facilitators of this increasing co-operation is the EURO-Institute at Kehl, Germany.

The EURO-Institute is a joint German-French centre for transboundary co-operation. Included among its major activities are bilingual training seminars which aim at resolving foreign language problems and obstacles in achieving training among police officers and judicial staff from different countries and language groups. The Institute functions as a "neutral facilitator" and thereby creates opportunities for meetings between German and French judges, prosecutors and policemen and gives them a platform to exchange experiences, problem solving, opinions, culture-specific perceptions and tools for implementation.

The Institute also assists in compiling basic information on legislative and administrative systems in the region, and on the legal frameworks for transboundary co-operation. The discussion of case studies helps practitioners to elaborate appropriate solutions for day-to-day practical implementation.

Contributed by Roland Stein, Coordinator, UNESCO Transboundary Biosphere Reserve "Pfälzerwald-Vosges du Nord".

2.2.6 Control of animal diseases and prevention of invasions of alien plants or animals

The implementation of a TBCA may involve:

- re-establishing linkages between landscapes and plant and animal populations on either side of an international boundary;
- re-establishing wildlife populations in areas of their former range;
- translocating animals from one part of the TBCA to another, including transboundary translocations;
- movement of people, vehicles and boats across the international border;
- controlling or containing alien invasive species in all or part of the area;
- controlling or containing the spread of wildlife diseases in the area.

These suggestions have the following security implications:

- The risk of transmitting diseases, e.g. foot-and-mouth-disease, among wildlife populations is increased;
- The risk of transmitting diseases, e.g. African Horse Sickness or brucellosis, from wildlife to domestic stock or vice versa is increased;
- There may be accidental introduction or spread of alien plant species or pathogens, into parts of the TBCA;
- Translocation of populations from elsewhere may result in the genetic contamination of local populations.

The security community can implement mitigating measures, such as:

- early consultation on risk assessment and mitigation measures to maintain veterinary controls;
- ensuring that management programmes are compatible and that there are effective measures on both sides of the border to control and eradicate alien species;
- establishing control measures to ensure that wildlife diseases and alien species are not carried across the border on vehicles or boats;
- controlling translocation and movement of wildlife and plants and considering source populations.

2.2.7 Communications

The implementation of a TBCA may involve:

- dealing with emergencies and other crises;
- compiling TBCA-wide data and information.

These suggestions have the following security implications:

- An effective communication infrastructure, including equipment and procedures and covering key points such as entrance gates, accommodation facilities, ranger outposts and border control posts, must be put in place;
- Information systems should be compatible, but the security of sensitive information must be protected.

The security community can implement mitigating measures, such as:

- establishing a comprehensive transboundary communications plan;
- agreeing on institutional responsibilities and procedures;
- ensuring a compatible communications infrastructure, including compatible computer-based information systems, and standards for access to and use of data;
- applying emergency notification and reaction procedures (see 2.3).

Successful wildlife conservation and tourism development at regional transboundary level requires regular interaction between key security stakeholders to coordinate changing situations, exchange information, and maintain working relations. © *Leo Braack*

2.3 Management of emergencies and disasters

Due to the location of TBCAs on the borders between countries, often involving inhospitable terrain, and the juxtaposition of wildlife management and adventure tourism, there is a disproportionate risk of emergencies and disasters that require co-operative management by authorities in both countries. The dispersed responsibility that TBCA co-operation implies means that well-established procedures are necessary to outline roles and responsibilities.

A particular complication is each country will have a range of agencies responsible for security. It is difficult to attain complete effectiveness within a single country let alone when the corresponding authorities in both countries are involved. The confusion of roles and responsibilities can lead to friction and ineffectiveness when it really matters. For a TBCA it is strongly recommended that a fully representative body is formed for the purposes of planning and coordinating security activities.

Defence activities in times of peace and armed conflict need to be given specific consideration. One solution would be to establish a permanent, joint emergency control centre. An alternative solution would be to involve dedicated personnel, who maintain high levels of communication and mutual understanding, in emergency management procedures.

2.3.1 Security infrastructure and operations in border areas

In border areas, national security considerations often take precedence over other activities, including nature conservation, in border areas. Security bases are often established to counter insurgency, illegal immigration and smuggling, and these activities will inevitably overlap with both the area and operations of the TBCA. TBCA personnel need to maintain excellent communication with security personnel to create mutual understanding. It is suggested that a high-level forum be established to facilitate this and to record agreements. In particular, the forum can meet to anticipate issues that might arise in the future and to discuss and learn lessons from situations that have been dealt with in the past.

There are many issues that arise from the presence and activities of security personnel that must be discussed and agreed. These include:

- the location of security infrastructure and personnel;
- authority regarding security relative to nature conservation functions;
- communication procedures;
- visibility and use of firearms;
- contact and conduct with visitors.

The presence of a TBCA provides the opportunity to establish mutually beneficial joint operations between security agencies within one country, and also between the security operations of adjoining countries. In many parts of the world, there are regional agreements for security, NATO being a prime example. In southern Africa, the Southern Africa Regional Police Chiefs' Organisation (SARPCO) has been established to enable police from one country to conduct activities in an adjoining country as long as they are accompanied by appropriate representatives of the host country. This example offers a model for TBCA security co-operation.

2.3.2 Situations involving armed conflict

Tensions between countries often manifest in border regions, and can impact TBCA operations. TBCA agreements should specifically address considerations of armed conflict and put measures in place before, during and after armed conflict. In this way, the consequences of armed conflict on TBCAs can be avoided or mitigated. Armed conflict brings with it a range of consequences for TBCAs, including:

- potential breakdown in transboundary co-operation and communication among officials on either side of the border;
- the inability of nature conservation staff to carry out protected area management functions;
- an influx of armed forces into border areas;

- human displacement, often resulting in an influx of refugees either moving through but sometimes also settling within a TBCA;
- wildlife resources being used on a large scale to supplement military rations or as food and shelter for refugees;
- critical and valuable conservation infrastructure and equipment being vandalised or appropriated for military or other use;
- suspension of financial support to TBCAs by donors and governments;
- suspension of revenue-generating activities that support TBCA operations.

During these times, nature conservation staff have to adapt to the circumstances and achieve solutions that will not compromise the long-term integrity of the TBCA. This might require decisions regarding priorities for the conservation of rare species or habitats, the management of refugee activities and the use of resources, e.g. the provision of alternative resources. Contingency plans should be developed and communicated to all stakeholders in times of peace, in order that rapid measures can be put in place to cope with situations as they develop. In general, responses will include:

- anticipatory, pre-emptive actions during times of peace and co-operation resulting in well-communicated strategies, plans and measures for dealing with conflict situations;
- developing actions and measures to mitigate impacts during times of armed conflict;
- developing measures aimed at recovery, rehabilitation and a return to optimal operations after the cessation of armed conflict.

Clear guidance on these matters can be found in Shambaugh *et al*., 2001 and Sandwith *et al*., 2001.

The latter publication includes a Draft Code for Transboundary Protected Areas in times of peace and armed conflict. The Code is intended as a basis for understanding and agreement between neighbouring nations on measures that should be mutually observed in order to reduce the impact of armed or other conflict on biodiversity or natural resources of common benefit. With permission, this Draft Code has been included as Appendix 1 for easy reference and use.

It is recommended that the proponents and developers of TBCAs familiarise themselves with the provisions of the Draft Code and:

- utilise the Code as an integral part of any TBCA security assessment or campaign;
- incorporate these provisions into TBCA agreements;
- establish joint forums for discussion of the provisions of the Draft Code whether or not there is a threat of armed conflict;
- develop specific measures to avoid conflict in the TBCA and to mitigate the negative consequences should conflict arise;
- develop contingency measures for key resources, e.g. rare or threatened species or ecosystems;
- actively promote understanding of biodiversity and its values among the range of actors involved with security and relief operations in times of armed conflict;
- pre-emptively negotiate agreements with donors or neutral agents for access to resources at short notice to address specific threats during situations of armed conflict;
- establish information and communication channels for involving all relevant actors in discussions regarding contingency measures;
- promote the adoption of a standardised set of commitments to ameliorate the consequences of serious conflict in regional agreements, such as SADC, EAC, ASEAN.

2.4 Resolving conflict and facilitating transboundary conservation programmes

There are several examples in the world where international conflict situations have been either resolved or moderated through the implementation of TBCAs, which in this context are sometimes referred to as "peace parks". Valuable lessons can be learnt from these situations for possible application elsewhere.

2.4.1 Establishment of TBCAs for conflict resolution

A good example is the Cordillera del Condor (Condor Mountain Range) region between Peru and Ecuador. An undemarcated portion of the Amazonian jungle border territory where the two countries meet was under dispute, both sides claiming sovereignty, leading to military build-up and war in the 78km border zone. With no settlement in sight, both countries agreed that proclaiming Adjacent Zones of Ecological Protection would lead to an amicable resolution, which was then signed into effect through a Presidential Act in 1988. This solution to alleviate conflict has since led to hugely expanded "Reserve Zones" around the initial core areas, the basis for a 2.42 million hectare TBCA now being developed. The area is now amicably managed according to mutually agreed "Principles of Good Governance", and has clear objectives which focus on peace, biodiversity conservation, and sustainable development of the communities resident therein (Ponce and Alcalde, 2003).

Contested border areas exist elsewhere in the world, and substantial discussion has been directed towards applying the concept of a Peace Park to resolve the often violent border conflict in the Kashmir region between India and Pakistan (Tallone, 2003). One possibility is to create a "Siachen-Saltoro Peace Park", which could potentially allow the military forces of both countries to withdraw under conditions of honour and dignity without compromising their political positions on the disputed Kashmir region. Such a solution would reduce further degradation of these magnificent mountain landscapes and save many lives. This area is also a core distribution area for the endangered snow leopard and therefore has very clear biodiversity benefits in addition to the political and humanitarian issues.

Historically enemies as part of a bitter war during Apartheid years, soldiers from Mozambique and South Africa now shake hands across the border of the two countries. Major stretches of this fence have now been torn down to achieve the conservation and tourism objectives of the Great Limpopo Transfrontier Park. © *Leo Braack*

2.4.2 Border conflicts promoting biodiversity conservation

Border conflicts often result in deterioration in the management of affected conservation areas especially when heavy military activity is involved. This can lead to dramatic cross-border movement of refugees and associated habitat destruction due to the demands for food, fuel and shelter in order to survive. In certain circumstances, however, border conflict has the unexpected and unintended consequence of actually improving biodiversity conservation.

The Demilitarised Zone (DMZ) between North and South Korea is such an example. Created in 1953 as a 250km long and 3.8km wide buffer zone with land mines and barbed wire to discourage human use, the DMZ has over half a century become a sanctuary for a wide range of wildlife long since displaced elsewhere by human population expansion and gross habitat transformation. Several rare species, including Amur leopards, have found safe haven here in what was never intended as a wildlife preserve. International agencies are now promoting the idea of establishing the DMZ as a Transboundary Peace Park when political relations between the two regions are normalised, with considerable benefits not only for wildlife, but also tourism and scientific study (The DMZ Forum, 2003).

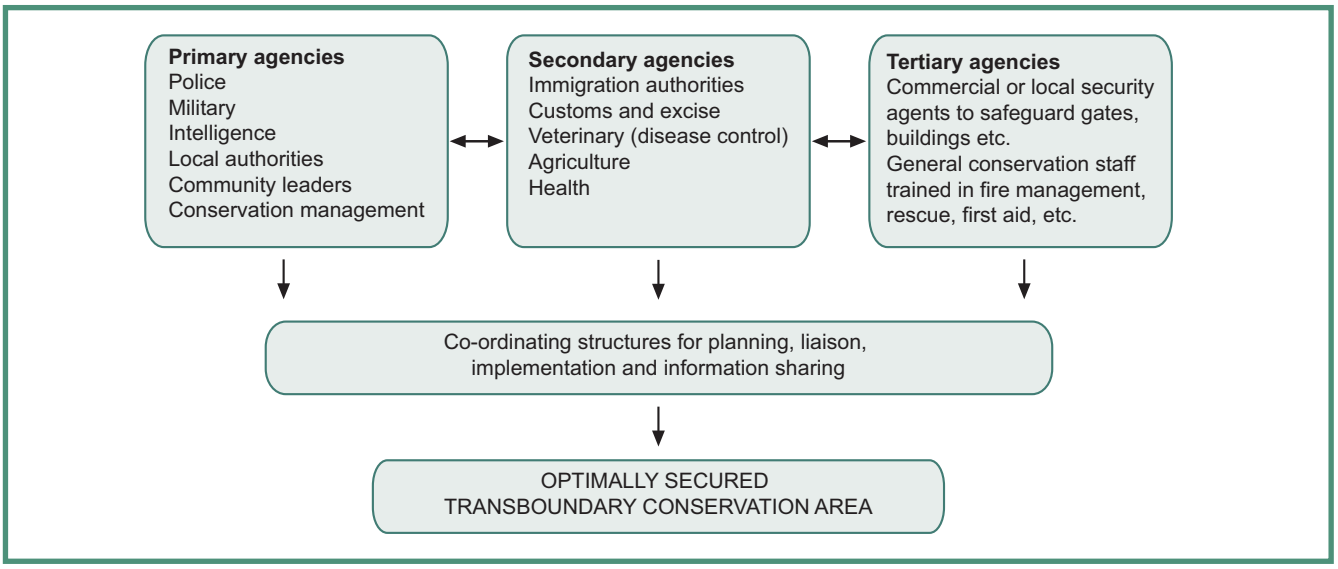
3. The security community

Many organisations and individuals contribute towards the security of a TBCA. The security community includes all of those who are responsible for establishing and maintaining conditions of security in the TBCA. Levels of responsibility and involvement in security matters range from local community leadership to national and even international security forces. In this Chapter, the roles and functions of the different components of the security community are examined, together with the institutional mechanisms that govern their powers and actions.

3.1 Key agencies involved in achieving TBCA security

Figure 3.1 lists some of the main agents of TBCA security, and suggests a hierarchy of responsibilities based on their level of impact on the safety of people and the integrity of the TBCA. Components that have national, community or wildlife security as their main function have primary responsibility. Secondary functions include those authorities dealing with immigration, customs, health, veterinary or agricultural responsibilities, while tertiary responsibilities include infrastructure and general management concerns. It is clear that the coordination of these security agencies is necessary, given their different levels of authority and responsibilities in achieving the ultimate objective of TBCA security. In many cases the security community will include national and regional role-players, but there are also instances where the security situation is under the control of other powers or authorities, e.g. in protectorates.

Figure 3.1 Security agencies



The police will generally be required to move freely anywhere within the TBCA, while the military will concentrate on border security. Immigration and customs and excise officials will operate from well-defined border control posts while investigating infringements of border controls. Security forces may be stationed permanently in the TBCA, or deployed on a temporary basis, depending upon the security situation. In most cases the conservation management staff and/or community members responsible for ensuring the integrity of protected areas and wildlife and the people who live in and around them, will be the permanent residents of the TBCA.

In the following sections, the different components of the security community are described, with a view to improved understanding of their complementary and shared functions.

3.1.1 Police

The role of police is focussed largely on activities relating to public safety, crime prevention and investigation. In the TBCA context, their interest would be in activities taking place within or around the TBCA. They usually require access to all areas of the TBCA and demand freedom of movement, which is usually difficult to refuse or limit. While police typically conduct their own independent operations, it is also a frequent practice for other security agencies to work with them, depending on the nature of the exercise, the level of trust, and many other local factors.

Effective information exchange among all security elements within a TBCA and also cross-boundary exchange of information and intelligence is essential. It makes sense for the police to work closely with community leaders and conservation staff who have good local knowledge and information. The police also require a close working relationship with their counterparts in neighbouring countries in their efforts to combat illegal activities focussed on the international border.

Because police have wide-ranging responsibilities, freedom of movement and also hold a powerful position within most countries, the potential for friction between police and other security elements is often high. This makes it imperative that good communication is maintained and that roles are mutually agreed and understood. From the point of view of wildlife security, any history of police, military or conservation management complicity in wildlife crime would necessitate objective and independent monitoring of security force activities. In some countries, special police, intelligence or anti-poaching units have been established to provide this independent monitoring function.

3.1.2 Intelligence

Most countries have intelligence agencies that form part of the defence force, police or secret service, or in some cases, forming a completely independent and separate national agency. They often have sweeping powers, and work in the background rather than overtly. Their primary mandate is to glean and test the veracity of information and to use the resulting intelligence in a manner that promotes the strategic interests of the country. Their mode of operation requires reliable information exchange, including with counterparts in neighbouring countries. In the TBCA context, information gathering through an informer network can facilitate the detection of threats such as organised poaching. The nature of this work emphasises the need for a tightly knit security community which facilitates information exchange, enables a "bigger picture" of security to emerge, and enables coordination of responses. At the same time, the activities of the intelligence agencies should be carefully monitored at the appropriate levels of authority to avoid any abuses of the system.

3.1.3 Military

The military forces have a mandate to maintain the "territorial integrity" of a country, which means they have to secure the borders and prevent infiltration, invasion or attack. The country border is a prime area of activity of the military, and in times of tension or in high risk areas of infiltration, national security interests will always supersede those of wildlife conservation. Even during times of peace and stability the military may insist on a presence in or access to border areas, even if it compromises the wilderness qualities of a TBCA. Where military activity is required or demanded, such a military presence should be preceded by a process of negotiation so as to reach agreement regarding numbers of military personnel, number and type of military vehicles and infrastructure, access routes, areas of activity, types of activity, and lines of communication and processes of interaction. Clearly these will be broad arrangements as the nature of their work is such that unexpected eventualities will occur and are unpredictable in scale. The point is that a commitment should be forthcoming from the military to respect the conservation land use of the area and to be sensitive in their use of the area, obviously to the extent possible within the demands of their responsibility.

Military activity may not be restricted to ground patrols, but may require the use of helicopters or other aircraft in inaccessible border areas. These requirements may result in physical, visual or noise impacts in TBCAs, which may affect communities who live there and impact negatively on visitors. Careful joint planning in times of peace as well as times of conflict will be necessary to ensure that the impacts of military activities are managed within acceptable limits. In marine TBCAs, the presence of naval or coastal patrols may have similar impacts, but can also facilitate the control and monitoring of maritime activities. For example, a naval presence can discourage illegal fish trawling, reef destruction, smuggling and other activities, and enhanced monitoring and response mechanisms can facilitate the detection and clean-up of potential damaging oil spills.

Box 3.1 Naval co-operation in the International Marine Park of Bonifacio, Mediterranean Sea

An International Marine Park between Corsica and Sardinia has been the subject of negotiations between France and Italy since 1992. The two nations have simultaneously been actively co-operating to control maritime traffic and prevent maritime pollution in the area.

Initially two distinct structures, one French and one Italian, were created with the intention of linking up and coordinating their activities. The Office of the Environment of Corsica was established in 1999 to manage the Natural Reserve of the "Bouches de Bonifacio" for France. A national park around the Archipelago of Maddalena was declared in 1994 as a joint initiative of the Italian State and the autonomous area of Sardinia. The creation and financing of the Park is supported by INTERREG III.

The main challenge to the combined park authority is the monitoring of the maritime traffic utilising the international waters of the Straits of Bonifacio. In the past the Straits of Bonifacio were subjected to heavy traffic of vessels in transit carrying dangerous materials such as fuel and hazardous and toxic waste. The monitoring infrastructure consists of two terrestrial bases, the Semaphore of Pertusato (France) and the Coast Guard base in La Maddalena (Italy). The respective coast guards contribute towards a maritime environmental protection service, the surveillance of fishing activity and a vessel traffic service as well as performing a search and rescue function.

The Italian Coast Guard offers 80,000 hours of patrolling to the Ministry of Environment which enables early detection of pollution incidents, assists in the reaction to emergencies and in the detection of trends. The Coast Guard in both countries can be called upon in cases of emergency to mobilise and coordinate anti-pollution resources and if necessary also make the link with the Navy to coordinate and mobilise support. The Navy liaises with the European Space Agency for surveillance and is able to offer an environmental and institutional remote sensing service.

A vessel traffic service is based upon norms drawn up at international level between the International Maritime Organization of the United Nations, Safety Of Life At Sea, the 1974 Convention of London, the 2002 European Union directive and the recommendations and manuals of the IALA-AISM Association of Paris. French and Italian vessels are not permitted to utilise the Straits and this ruling has contributed to a considerable reduction in traffic in the area. All vessels using the Bonifacio Straits are obliged to carry a blue box which helps with monitoring, control and assists in emergencies. This has been found to discourage transit by laden oil tankers and ships carrying potentially dangerous cargoes. The ruling applies to private, public and foreign vessels through a legal mechanism that allows intervention in international waters at an international level.

Compiled using Chevalier, 2004; Transboundary Protected Areas Task Force, 2004.

In general the military authorities enjoy a high political profile and power in most countries. To ensure sound relationships between TBCA security agencies and the military, the development of a positive partnership is essential. Although there may be no history or tradition of co-operation, it is in the interests of TBCA security that mechanisms for communication and co-operation are developed. At a low-key level, the conservation agencies can engage with the local military personnel to build an understanding of biodiversity and tourism priorities, and engage the military in joint efforts to combat illegal activities such as poaching. In addition, high-level meetings between conservation, community and military leadership can provide a more formally agreed framework for co-operation. When developing such partnerships it is useful to emphasise the relative value that each group has to contribute. Conservation and community partners possess local knowledge and information, and can demonstrate the unique and interesting attributes of the TBCA. Similarly the presence and capacity of military agencies can provide direct and indirect support to conservation and community efforts to create and maintain conditions of security for wildlife and people.

3.1.4 Conservation management

The management of most protected areas includes personnel, such as game wardens, rangers and field-rangers, who have specific training and skills in conservation management operations, including wildlife security. They are usually empowered in terms of nature conservation legislation to carry out their functions. They usually have responsibility within their area of jurisdiction for a diverse range of activities. These include implementation of wildlife management programmes, such as animal and vegetation management and monitoring, management of visitor activities, fire management, community liaison, dealing with problem animals, and maintenance of infrastructure and water provision. All of these responsibilities require appropriate levels of training, including the organisation and management of field-based personnel. Field-rangers usually have extensive powers under nature conservation regulations, and in addition to police or military mandates, are required to address crime prevention such as theft, illegal hunting, smuggling, arson and trespassing in protected areas. To carry out these functions they need to be skilled in patrol techniques, information gathering, interpretation of legislation, collection of evidence and court procedures over and above their primary training in nature conservation.

There are extensive demands on conservation personnel to engage and communicate with other stakeholders, both internally and externally, while performing their duties. In respect of security, they must be conversant with the roles and responsibilities of other security agencies. They may have to manage liaison functions, communication with neighbouring communities, and even operate clandestine informer networks. Field-based wardens and rangers will often be the first point of call for security issues in their areas such as accidents, natural disasters, incursions and other incidents. They have to be prepared to implement procedures and take control of these situations as they arise. The maintenance of communication systems, including radios, telephones, transport and communication protocols, is of great importance when dealing with transboundary situations. Transboundary communication will be enhanced when nature conservation personnel liaise regularly to discuss situations that could arise and jointly plan and execute responses in conjunction with other security agencies.

3.1.5 Veterinary authorities

The veterinary personnel responsible for controlling animal diseases are often based in agricultural ministries or authorities. Their main task is to prevent transmissable diseases (e.g. Foot-and-Mouth-Disease, Rinderpest, Bovine Tuberculosis, African Horse Sickness) from entering or leaving the country and to prevent the transmission of disease between wildlife and domestic stock. The maintenance of disease-free populations can have profound effects on trade and economic development, as witnessed when foot-and-mouth-disease spread in the United Kingdom in 2001, causing a total ban on the export of meat products from the UK.

Veterinary authorities usually maintain a low profile, but have considerable powers of enforcement of regulations. The planning, implementation and management phases of TBCAs are of direct interest to these authorities, particularly as there is often an explicit purpose of restoring or permitting transboundary movement of animals. Where the removal of international boundary fences is envisaged, veterinary authorities should be consulted as it is their mandate to ensure the health of both domestic animals and wildlife. Veterinary authorities may maintain checkpoints within or at the boundaries of TBCAs in order to carry out their functions and will require close communication and co-operation with other security agencies.

3.1.6 Agricultural authorities

Agricultural, environmental and health authorities are usually responsible for maintaining control of transboundary movement of alien invasive species, pathogens or genetically modified organisms, for example through routine checks at international airports. These invaders are no minor threat and it is widely acknowledged that alien invasive species are one of the world's most pervasive threats to biodiversity, and can have serious economic consequences (Pimentel *et al.*, 2005). Agricultural authorities should be invited to participate in the discussions regarding TBCA development in order to establish appropriate controls in conjunction with other security agencies.

3.1.7 Immigration and customs authorities

Immigration and customs authorities in each country will apply procedures to control the movement of people and goods across the countries' borders. In the TBCA context, where it is the intention to promote freer movement of tourists in the transboundary zone, these activities require imaginative responses, as the risks of illegal movement and

flow of goods is heightened. A particular concern in many countries where transboundary conservation aims to improve socio-economic conditions, is that poor people are attracted to the TBCA zone, and this influx can exacerbate existing problems and cause transboundary impacts regarding the take-up of employment and other economic opportunities. In addition, the attraction of international tourism to the TBCA will heighten the complexity of immigration and customs controls in each country concerned. The successful development of the TBCA as an international destination and in addressing the requirement for increased visitor and community safety and security, depends upon early discussion and carefully formulated responses by conservation and immigration authorities.

Conference delegates from throughout southern Africa discuss cross-boundary issues at the border between the Tsavo National Park of Kenya and Mkomazi Game Reserve of Tanzania. © *Leo Braack*

3.2 Institutional mechanisms for coordination

TBCA development involves a wide range of stakeholders representing a variety of interests. These include government authorities, conservation managers, communities, tourists and entrepreneurs, both within countries and across the borders. The TBCA provides a coordinating focal point for interaction and exchange among these stakeholders, and is often the place at which the alignment or misalignment of objectives is first discovered. For legitimate TBCA governance, functional coordination has to be established in such a way that the interests of stakeholders can be fairly represented and addressed. The security community, despite its disproportionately influential mandate and power, must seek ways in which to engage with other stakeholders with a view to long-term co-operation and conflict resolution.

The development of TBCA governance is in its infancy, and current practice includes a variety of local (bottom-up) approaches and diplomatic (top-down) approaches. There is a real challenge to merge these approaches into effective and legitimate coordinating institutions. In the following sections, some experiences in this regard are illustrated and some general guidelines introduced.

3.2.1 TBCA coordination frameworks

In most cases, the starting point for discussion on transboundary co-operation is provided by conservation managers in adjoining protected areas who identify the need for, and benefits of, joint or harmonised management e.g. for joint fire management, rescue or anti-poaching operations. They very quickly encounter the necessity of an official mandate to engage across the countries' borders and the usual response is to establish more formal linkages or even a TBCA. A local issue quickly becomes an international one, raising the stakes and complexities for all concerned.

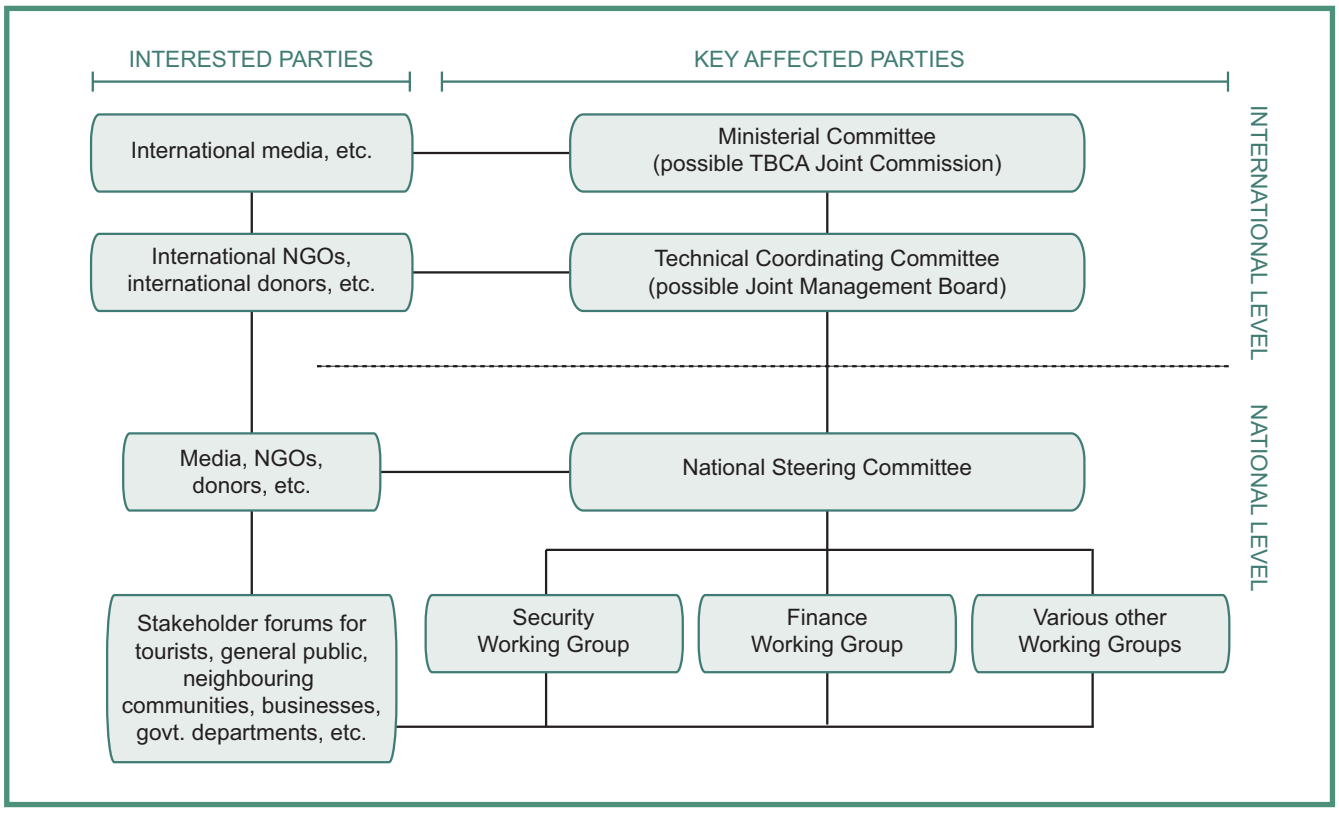
A useful response is the development of a "concept plan" which sets out the objectives and identifies the stakeholders. Such a process runs the risk of not being a fully inclusive process. For example, the process might be supported by a conservation NGO, but also needs to be understood and accepted in government circles. The process might not have the resources or influence to fully engage local community stakeholders, thereby raising concerns that their perspectives will not be taken into account. A concept plan is a useful rallying point focusing discussion and providing a means to move forward on more structured consultation in each country concerned.

Within-country discussions usually follow, resulting in joint meetings of the relevant authorities in each country, where approval in principle to develop the proposals further should be achieved. It is often at this stage that high-level engagement between line ministries in each country is advisable, governed by the existing diplomatic protocols in place. In cases where there is a bilateral commission, or intergovernmental consultation framework, this can be most supportive of these efforts. Regional co-operation mechanisms such as SADC or the EU, or regional frameworks for international development assistance e.g. through the African Development Bank, World Bank, United Nations Development Programme or World Conservation Union (IUCN) can be most helpful.

It is usually necessary at this stage to formalise liaison or coordination arrangements in order to provide a firm basis for continuing negotiations. This institutional framework could include:

- A "Ministerial Committee", comprising the Ministers for Environment and any others in the two or more countries participating in the TBCA, which will meet occasionally to provide broad political guidance and direction, as well as to receive and discuss reports on progress.
- A "Technical Committee", with senior representatives from both countries, from the state conservation agencies and any other state departments or NGOs involved. The Technical Committee could report to the Ministerial Committee and take responsibility for implementing ministerial agreements and directives.
- "Working Groups" to address specific themes such as security, tourism, financing, etc. These Working Groups would receive their mandates from and report to the Technical Committee.

Figure 3.2 TBCA coordination framework

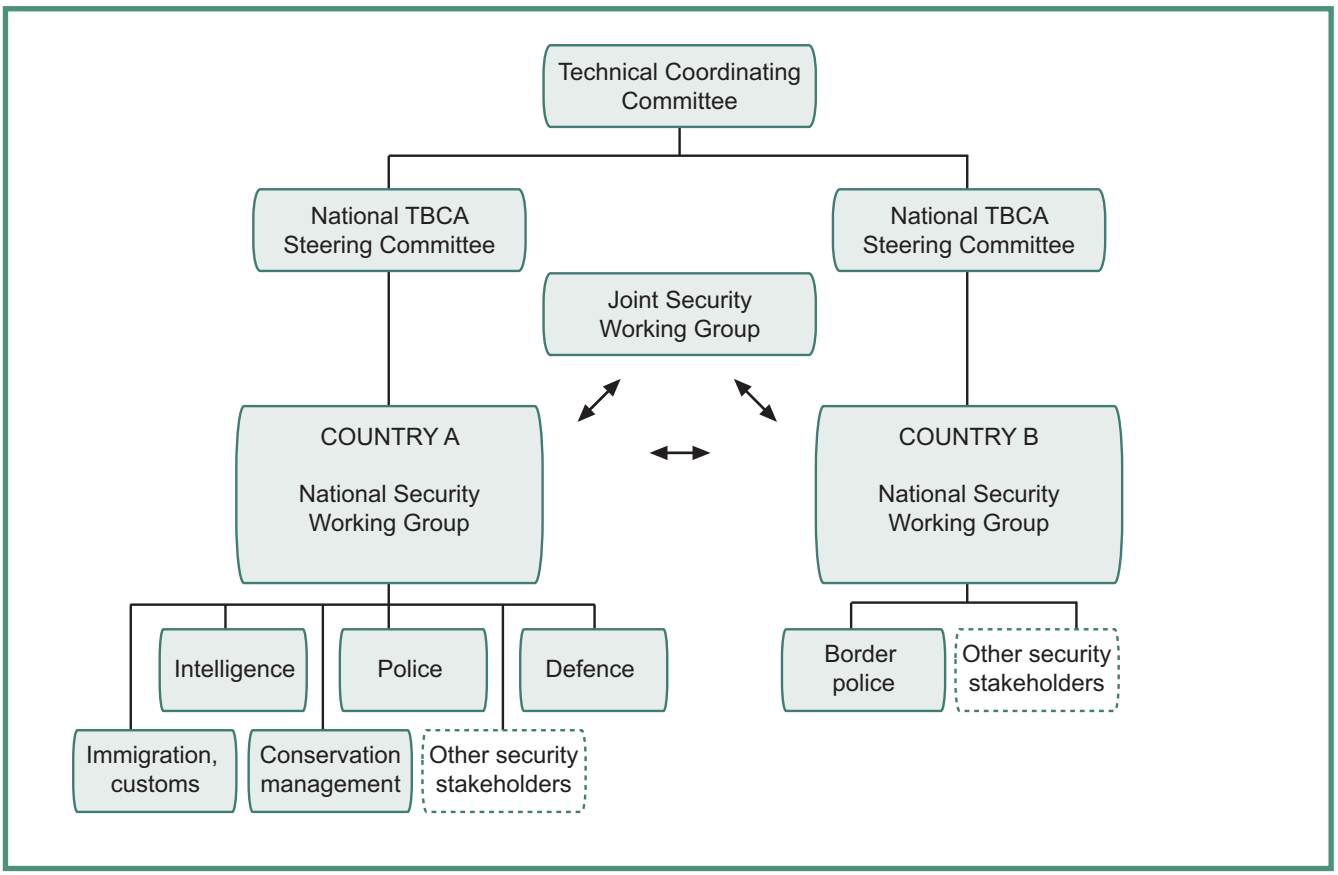


A possible depiction of the functions and structures involved is given in Figure 3.2. In each case, the interim consultation structure could give way in the future to a more formalised institutional arrangement. For the purposes of this discussion, the functions of a "Security Working Group" are further elaborated below, but similar considerations would apply to other working groups established to facilitate transboundary coordination.

3.2.2 Security working group

Assuming that a Security Working Group or similar structure is established, its primary responsibility would be to identify security considerations regarding the proposed TBCA, and to integrate its work with other Working Groups. In practice, a Security Working Group is likely to be needed in each participating country to coordinate the activities of the national security community, for reporting to the National Steering Committee and to the Technical Coordinating Committee (Figure 3.3). As the coordination process matures, and more formal coordination structures are put in place, Security Working Groups established in the planning and developmental stages may continue or be absorbed into others. The level of co-operation engendered in the early stages is likely to provide stability in the future, and justifies the emphasis given here.

Figure 3.3 Transboundary coordination on security matters



Africa is home to magnificent herds of large ungulates such as zebra and wildebeest, but they require extensive areas for long-term viability. Transboundary Protected Areas are an ideal approach to satisfy the spatial needs of such species, but it requires coordination of disease control measures, impact on humans and livestock, hunting impacts, tourism opportunities, all best addressed by small international committees meeting to discuss such issues of mutual concern. © *Leo Braack*

4. Addressing security considerations in international agreements

4.1 Introduction

The formalisation of international agreements for transboundary conservation involves a political and diplomatic process, supported by line ministries in each participating country. The importance of involving the whole security community from the outset has been emphasised in previous chapters and this involvement is particularly relevant at the point at which countries agree to move forward with more formalised arrangements. Although there may be political will to proceed with the formation of a TBCA, the process cannot move forward until legal and jurisdictional responsibilities in each country are cleared. Failure to engage the whole security community, and especially line ministries dealing with key security functions, could delay progress. Similarly, failure to engage community stakeholders in decisions that affect them will undermine the legitimacy of the process.

There is no ideal or model process for developing a TBCA but it will often include a process of consultation around a TBCA Concept, leading progressively to intermediate and then formalised agreements later in the process (Figure 4.1). Collaborative planning among conservation managers, security agencies and other TBCA stakeholders from an early stage allows for the identification of security considerations at the outset of the process. It also allows time for detailed discussions and the formulation of responses that can be translated into the articles of agreements and into implementation mechanisms. Because situations vary in different countries and regions, security considerations and their resolution will also vary. Some of the more important generic issues that require consideration prior to moving forward with agreements are highlighted below. A specific example of a co-operation protocol for police operations is provided in Box 4.1.

4.2 The question of scale

High-level considerations include joint military, police or intelligence operations, extradition arrangements and cross-border "hot-pursuit" situations. Lower-level considerations include joint patrol protocols, information exchange or joint capacity-building. Although agreements provide a framework for all joint security operations, some of the higher-level considerations require explicit treatment in international agreements such as treaties, bilateral agreements or international protocols. Other issues could be dealt with by the Technical Coordination Committee or Joint Security Working Group as they arise. During the TBCA planning and development process, security considerations are likely to be identified progressively as the dialogue proceeds. In addition to high and low-level considerations, there will be considerations that are dealt with earlier or later in the process. Security considerations will need to be addressed at all stages of the TBCA planning and development process illustrated in Figure 4.1.

4.3 Security issues which commonly arise from TBCA agreements

4.3.1 Extradition

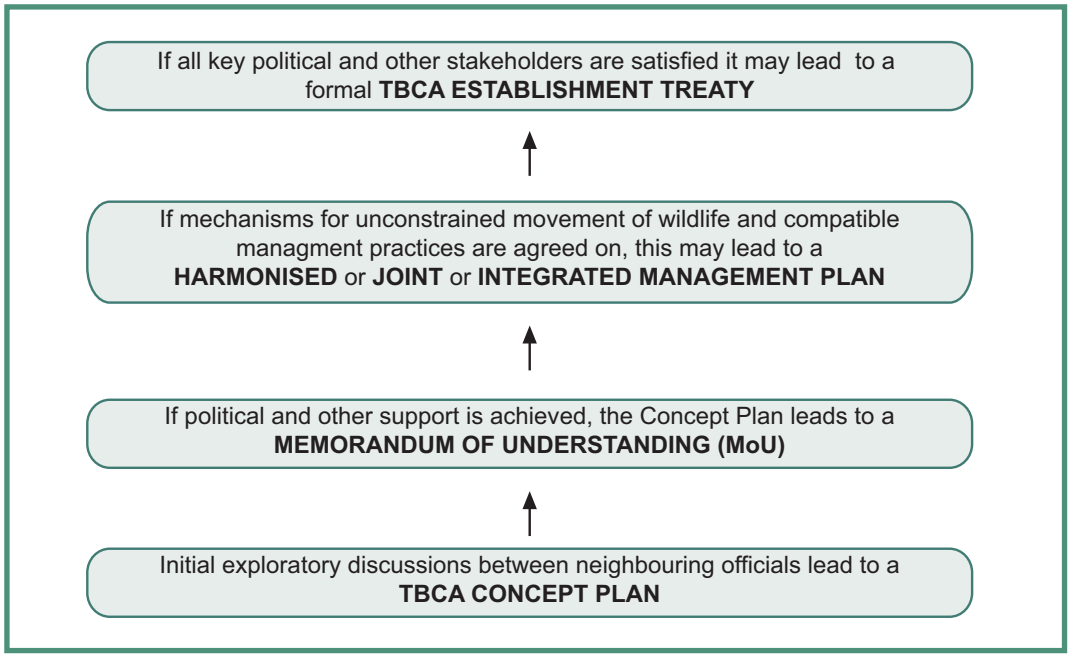
Many countries have existing bilateral or regional agreements regarding extradition, but TBCA planners should verify the legal situation and determine how it would apply in the TBCA. A particular situation arises in the TBCA with wildlife crime, and where the different legal regimes may be exploited by criminals. The TBCA agreement should establish certainty in the harmonisation and application of these laws, and provide these in a form that can be interpreted and applied by TBCA officials. Where extradition agreements already exist between countries these can be incorporated into the TBCA agreements, but where they do not, provision could be made in the TBCA agreements to address the problem.

4.3.2 Evidence

If a criminal is being prosecuted in one country based on evidence in the neighbouring country, then the use or movement of evidence across the border may pose problems. Security officials should be aware of this and preferably

come to an agreement on what can and should be done in anticipation of such events. The agreed provisions could be incorporated into the TBCA agreement and form part of joint capacity-building exercises.

Figure 4.1 Key milestones in developing international agreements on TBCA development



4.3.3 Use of force

The degree of freedom to use force, which security forces have to effect an arrest, tends to differ substantially between countries. In many countries, "minimum force" is stipulated, while in others, there is no such provision. In some cases quite severe approaches have been adopted. Countries involved in TBCAs must reach an understanding on the relevant laws and their application in the TBCA domain. This understanding may need to be recorded in the Memorandum of Understanding, Joint Management Plan or Bilateral Agreement.

4.3.4 Jurisdiction

Even though countries might enter into a TBCA agreement or remove boundary fences, this does not change the sovereign rights and applicability of laws in the participating countries. The jurisdiction of security personnel from one country therefore stops at the border. Formal agreements should be made to guide cross-border actions that can be accommodated within the laws of a country, such as "hot-pursuit" operations across the border.

4.3.5 Standardisation

One of the purposes of TBCAs is to build standard and compatible management in the participating countries. This is true also of the security infrastructure and procedures, and measures should be implemented to strive towards compatibility. Even simple differences can cause misunderstanding and friction, such as allowances paid to staff on joint patrols. Wherever possible, jointly agreed standards should be applied, and where necessary, these standards should be elaborated in the TBCA agreement or protocols. Not the least of these is to develop agreement on methods of communication so that security operators can talk to each other, which implies language proficiency, compatible equipment, shared radio frequencies, etc.

4.3.6 Harmonisation of laws and regulations

It is clear that the TBCA agreement will require harmonisation of some important national laws and policies. These may be issues such as environmental impact assessment, immigration procedures or penalties for infringements of wildlife legislation. They may also be minor issues that require harmonisation to ensure the smooth running of the TBCA, e.g. standardised times for travel, closing times of entrance gates and speed restrictions. A TBCA agreement should include provisions for a process by which such harmonisation will be achieved.

4.3.7 Border control

The issue regarding immigration and customs controls has been discussed previously and should be included as a specific consideration in the TBCA agreement. Immigration and customs authorities will play a major role in discussions and agreements relating to all levels of the establishment of points at which tourists and goods may cross between partner countries. They may also insist that such agreements be taken up either in the transboundary agreement or joint management plan.

4.3.8 Emergency procedures

The need for stable security conditions is often cited as one of the reasons for establishing a TBCA (de Villiers, 1999; Sandwith *et al.*, 2001). To facilitate effective responses to emergencies, a jointly managed protocol and joint emergency control centre should be established. It is crucially important for authorities in each participating country to be linked through effective communication so that emergency procedures can be enabled, responses coordinated and the public provided with adequate factual information. The establishment of agreed emergency procedures should form a specific component of a TBCA agreement.

4.3.9 Airspace control

Aircraft are used in protected areas for a variety of reasons, including aerial census of wildlife populations, game capture operations, fire-fighting, crime prevention, routine patrols, and also for transport of visitors. In addition to these flights, there may also be commercial and military flights into or over the TBCA. These will have implications for international airspace agreements, and should be addressed at that level. Agreement on the use of aircraft within the TBCA and coordination of air traffic and related operations will also need to be formalised. Some of these considerations include:

- agreement on minimum altitudes for air traffic;
- rules and guidelines for official use of aircraft in the TBCA;
- transboundary flights and their implications for immigration and customs control;
- use of private aircraft, landing zones and procedures.

4.3.10 Use and control of infrastructure

Irrespective of the ownership and location of infrastructure such as roads and bridges, the legitimate use of such infrastructure by appropriate security forces should be included in a TBCA agreement. Protocols may be needed to ensure that requests to close or limit access to key infrastructure can be appropriately handled if and when the occasion arises.

4.3.11 Integrated information technology and information management

Information is a strategic resource and joint information management can be a powerful coordinating force in a TBCA. Standards and protocols for information exchange must be established, including the use of information that has security implications. It would be preferable to have a single information network for routine information exchange, e.g. for visitor bookings throughout the TBCA, thereby facilitating the monitoring of visitor use throughout the TBCA. There are implications for the location and management of information infrastructure throughout the TBCA that require governance through the TBCA agreement or protocols established in terms of it.

Box 4.1 Police co-operation on international borders in Europe: German-French transboundary co-operation in the region of the upper Rhine Valley

Political and legal foundations

The first inter-governmental agreement on German-French police co-operation was signed in 1977. With the strengthening of the European Union during the 1990s, the development of transboundary police co-operation between the two countries was greatly expanded. As a follow-up to the "European Union Treaty of Maastricht", in 1992 a convention on the daily co-operation between German and French police stations in the border area was agreed upon.

The Schengen Agreement came into force in 1995 which in a step-wise process reduced border controls until complete abolition. Consequently transboundary police co-operation became more and more important, particularly in border regions. Finally, the Agreement of Baden-Baden in 1995 and the Treaty of Mondorf in 1997 declared the establishment of German-French commissionerships (which are also the basis of co-operation for the federal and national border police as well as for the customs authorities), thereby fostering the development of concrete and practical ways of co-operating along and across the border.

In 2002 the Convention of Mannheim facilitated the transboundary police station co-operation in the Rhine Valley area.

The different forms of co-operation

Current co-operation in the region takes place at different levels and in different areas, based on European treaties, supra-regional, regional, sub-regional and local agreements. Some examples of best practice include:

Administration

In 1999 Germany and France inaugurated a joint administrative centre in Offenburg. Here German and French police officers work closely together under the same roof. Their main tasks are to gather, analyse and exchange relevant information, in order to perform joint assessments of specific problem situations.

Specific operational situations

The national police stations exchange all necessary documents and information across the border. German and French policemen use compatible radio systems, joint meetings are attended by representatives from each country and there is an exchange of advisors and observers.

Education, training and advanced training

The language barrier is only a minor problem, as most of the German and French policemen speak and understand their neighbour's language or at least a regional or local dialect. A bigger problem are cultural differences regarding notions of security. This is manifest in different legal and judicial structures and day-to-day applications. Each of the partners has the challenge of accepting and respecting the other's culture of security and police.

As a consequence the "EURO-Institute for Transboundary Co-operation" (*see Box 2.5*) offers workshops and seminars to German and French police officers to improve understanding of their colleagues' organisations, cultures and work systems. In addition, the national police academies are increasingly organising and facilitating cross-border exchanges.

The Council of Europe has decided on the establishment of a European Police Academy which will offer advanced training especially to high ranking police officers.

Contributed by Roland Stein, Vilenstr.17, D-76891, Nothweiler, Germany.

5. Planning and implementing effective security responses

5.1 Introduction

The requirement to engage effectively with all components of the security community has been emphasised in this manual. The primary agencies for security management in a country, i.e. police, military and intelligence agencies, as well as some of the conservation authorities, are accustomed to particular methods and ways of describing their operations, which facilitate clarity of purpose and means. For example, the international protocols that pilots use when communicating with one another are designed to avoid misunderstandings that could lead to disaster. Security operations in transboundary contexts are similarly sensitive to clear and accurate communication particularly as the countries involved may use different terms for similar activities. Security language and style may be quite foreign and problematical for other stakeholders involved with TBCA development. This chapter sets out to assist the multiple stakeholders involved in transboundary security to plan and implement security operations by finding common ground between the security communities in the countries involved, and between the military and para-military language of security forces and those of the layman, including local communities, municipalities, visitors and service providers. The reader will be able to judge whether this has been successfully achieved.

Security experts who contributed to the workshops that led to this publication emphasised that security operations are multi-dimensional and dynamic, and that a framework for dealing with security should include:

- identifying the security challenge;
- identifying the options for dealing with the security challenge;
- taking into account environmental and humanitarian considerations;
- planning the response;
- identifying roles and responsibilities;
- monitoring and reviewing outcomes and impacts;
- adapting future responses to lessons learned through implementation.

This chapter provides perspectives on the planning, implementation and monitoring of security campaigns. Suggestions for supportive capacity building are made in Chapter 6.

5.2 Terminology

It is useful to introduce some terminology to provide a common language. The following terms and concepts are often used in security operations, but are certainly not a complete or definitive list.

Security campaign: A security campaign is usually a series of related operations designed to achieve a desired end-state or goal.

Plan: The plan represents the complete description of a proposed exercise, including supporting activities, such as the provision of logistic support, use of aircraft, legal mechanisms.

Operation: An operation is a single security action or series of actions implemented over a defined period of time to achieve a clear single aim within the scope of a security campaign.

Phase: The logical breakdown of an operation into useful segments.

Centre of gravity: This is a pivotal feature of a security campaign without which it would not be possible to achieve the purpose. It is also used to describe the key feature of the threat to the TBCA, e.g. the ability of poachers to locate the species they are targeting.

Line of operation: This comprises a sequence of decisive points necessary to achieve an objective, e.g. neutralise an opponent's centre of gravity. Together with other lines of operation, it will lead to the campaign end-state.

Focus of main effort: This describes the occasion within any operation where there may be a need to concentrate effort in a particular place to achieve a decisive point.

Decisive point: This is a key event, possibly one of many such points, along a line of operation, the successful outcome of which is essential to achieving the end-state, e.g. identification of a corrupt official.

Decision point: This is a point in time along a line of operation when a major decision on the next series of actions needs to be taken.

End-state: The desired goal of a security campaign, e.g. to halt the poaching of an endangered species by an international poaching syndicate.

5.3 Campaign planning

Assuming that conditions of insecurity in a TBCA have been identified, the decision may have been taken to plan an appropriate campaign in response. For example, if an international poaching syndicate poses a threat to the TBCA, this may impact on the objectives of the TBCA to achieve its conservation goals, may affect tourism development in the area and may compromise community safety and security. Political pressure may be brought to bear because of the international spotlight that is placed on the area and because of government undertakings to national and international interest groups.

Before proceeding with detailed planning, the TBPA Security Working Group will need to determine the end-state of the security campaign over the medium to long term i.e. **what** will be achieved by the plan. It will then be necessary to determine the **how**, i.e. methods to achieve the plan, which will incorporate the tactical actions to be implemented, i.e. the **who**, **when**, **where** and **what next** actions.

As part of the **who**, it will be necessary to identify who will provide leadership for the campaign. This position is usually described as the Chief in Charge, who could be drawn from one of the existing security agencies. A clearly stated campaign will facilitate effective coordination by the Chief in Charge, and ensure that progress can be monitored and information provided to the relevant authorities.

5.3.1 Principles of campaign planning and implementation

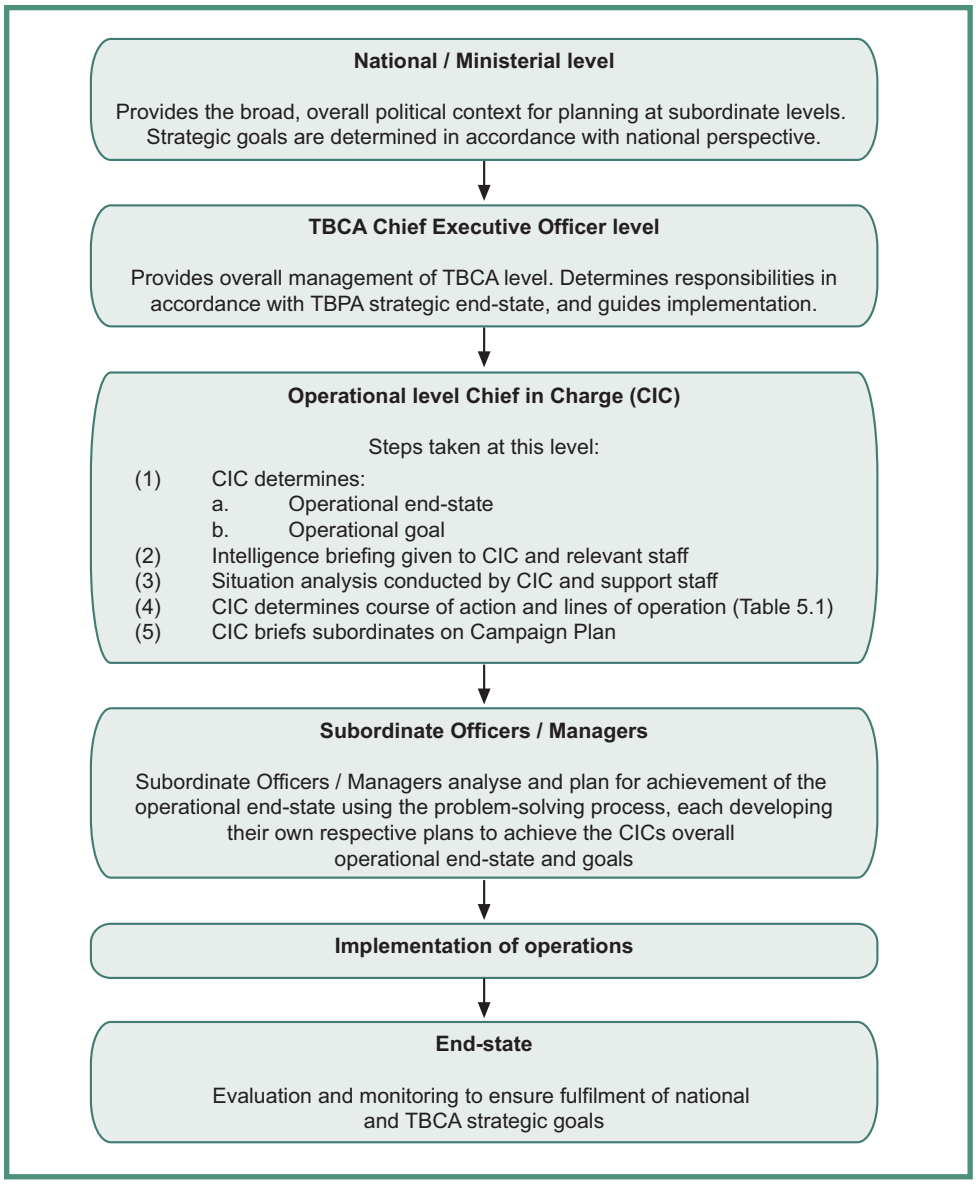
Effective campaign planning will utilise the principles of the Draft Code appended to this manual and in addition be mindful of the following principles:

Conformity to strategic goals. It is essential that any campaign end-state conforms with the strategic objectives of the TBCA and that all role-players are adequately briefed.

Compliance with environmental and humanitarian values. TBCAs have multiple goals that must be accomplished simultaneously. A security campaign must not only contribute towards the achievement of a security objective, but also not compromise the long-term achievement of biodiversity conservation goals, community development goals, economic development goals, e.g. tourism ventures, and the rights and values of the people involved.

Appropriate use of capacity. The Chief in Charge must ensure that the plan and end-state are understood by all security role-players and that they are capable of carrying out their assigned responsibilities.

Figure 5.1 Outline of overall security campaign planning process



Effective deployment of resources. The Chief in Charge should employ the appropriate security methods and tools to achieve the end-state and ensure effective integration and concentration of resources to achieve the purpose.

Adaptability and flexibility. Although planned, an actual campaign demands an adaptive response and the ability to deploy resources to take advantage of the emerging situation and achieve a strategic advantage.

Acceptance of affordable risks. It will be necessary to make judgements regarding the appropriate moment to act, supported by a continuous assessment of risk.

5.3.2 Campaign planning, initiation and termination

The Chief in Charge is responsible for campaign planning. Planning usually begins with a problem analysis, where the security threat and its underlying causes and relationships are understood. The campaign must be comprehensive, i.e. include all necessary actions and be sufficient to achieve the desired end-state, including environmental and humanitarian considerations. It may take weeks, months or even years to put into effect. It is the primary responsibility of the Chief in Charge to put the planned activities into effect with sufficient resources and coordination. In particular, the process should ensure that subordinates are appropriately briefed and monitored in respect of their responsibilities. The Chief in Charge must also ensure that contingency plans, capable of being put into operation at short notice, are identified and resourced. Contingency plans will address alternative scenarios identified in the analysis phase.

Once the campaign has been launched, the Chief in Charge will be responsible for maintaining momentum and the committed roles of participants. In particular, the Chief in Charge is responsible for analysing the progress of the campaign and for making the adjustments that are necessary to achieve the end-state as the situation emerges. While being mindful of the tactical responsibilities within individual elements of the campaign, the Chief in Charge should resist becoming directly involved in the tactical detail as this generally disempowers subordinates and can result in the Chief in Charge being distracted from the overall campaign objectives.

The Chief in Charge should have a clear understanding of when and how the campaign should end, which is likely to be closely related to the desired end-state. The achievement of this end-state may well be followed by other actions by other security or political role-players to achieve their desired aims. The Chief in Charge will develop and implement a campaign exit strategy to support these actions or hand over responsibility to other security role-players, while ensuring that there is no reversal towards the situation of insecurity that initiated the campaign.

In summary, it will be necessary to:

- *Undertake a comprehensive situation analysis.* The best means of designing and implementing appropriate responses is to develop a comprehensive problem analysis to determine cause and effect relationships in relation to the desired end-state. For example, if the entire TBCA faces a threat of insecurity because of rebel activities or armed conflict in the region, this will have a much greater scope and complexity of response than a situation where a monthly or annual poaching threat is being experienced. Once the situation is understood, the desired end-state can be adjusted and an appropriate response planned and implemented.

- *Determine the overall objective and desired end-state.* In the face of an international poaching threat causing instability in the TBCA and between the countries concerned, the desired strategic end-state might be to "achieve political stability and economic well-being among the countries involved in the TBCA". On the other hand, the operational end-state might be that "the international poaching threat is removed and the security forces in the TBCA maintain poaching at subsistence levels".

  When developing an understanding of the situation, the Chief in Charge will have to take into account such diverse issues as political considerations e.g. avoidance of alienating key constituencies; legal considerations e.g. contradictory laws applying in different parts of the TBCA; moral considerations e.g. the effect of the situation to date on attitudes; time and timing considerations e.g. the run-up to an election or an impending rainy season; and financial considerations, e.g. the resources available to act swiftly or over a longer period.

- *Analyse the situation, determine intervention options and an action plan for implementation.* Having identified the operational end-state the Chief in Charge must determine the "centre of gravity" of the situation resulting in insecurity. This might be "the ability of the international poaching syndicate to exploit the local population as a conduit and entry point". There may be several "centres of gravity" to be addressed. The CIC must determine the lines of operation between the prevailing situation and the desired operational end-state. In addition, all of the decision points and decisive points along each of those lines must be determined. Each line of operation must lead the personnel allocated to that specific operation through the "centre of gravity" relevant to that operation. Examples of centres of gravity requiring different lines of operation are:

  - Poachers are prevented from entering the TBCA;
  - Corrupt officials are identified;
  - Socio-economic situation in the neighbouring community improves, reducing the population's dependence on poaching.

5.4 Situation analysis

A situation analysis will be context-specific, and the following are suggested as elements to illustrate and guide security teams in conducting a situation analysis.

5.4.1 Assessing the terrain

The level of detail required will depend upon the prior knowledge of the area by the team. It is usually useful, nevertheless, to conduct a briefing of all members of the team, to ensure a common understanding of the situation. Maps, photographs and diagrams will aid this orientation. Depending on the size of the area to be covered, division into sectors might be advantageous, provided that those involved in each sector remain aware of the overall situation.

Terrain is a neutral factor, able to be used and exploited by both the security team and those that threaten security (the opponents). It is essential to achieve an understanding of the opportunities and constraints of terrain, encompassing topography, vantage points, cover, routes, water and shelter, natural and man-made obstacles, infrastructure, and seasonality of access. A specific consideration is the assessment of the time needed to access and travel in the area of operation.

5.4.2 Assessing the threats

All of those agencies and individuals who can contribute information regarding the types and levels of threat facing an area should be brought together. A thorough discussion will ensure that all relevant information is recorded. It may be useful for the Chief Intelligence Officer to present an overview of the threat situation as a basis for the detailed discussion. It will be necessary to gain insight into the nature of security threats, where they originate, who is involved and how they are organised and resourced.

Analysing the threat of criminal activity is a crucial component of the situation analysis. It is essential to gain an understanding of criminal activity and organisation in the area, including the use of tactics and weapons. Information on the organisation of criminal activities enables the security community to infiltrate or undermine this organisation, to anticipate and counter activities that will result in insecurity, to protect vulnerable people and infrastructure, and to ensure the arrest and punishment of offenders.

Information on tactics and weapons enables the security community to anticipate particular activities and responses, to use methods that exploit weaknesses in the opponents' operations, and that are concomitant with the nature and scale of the criminal operations. For example, if an international poaching syndicate had access to helicopter transport and particular types of radios and firearms, the security community can assess the risk to local communities and determine the appropriate scale of response.

5.4.3 Assessing the local community and humanitarian context

A thorough knowledge of communities living in and around the TBCA is essential. Community leadership, circumstances and prior or current involvement in security activities are all important information. In particular, it is useful to have an indication of the degree to which particular communities are supportive of the security effort, and which communities are not supportive. If there is information regarding people who have prior involvement in crime or insecurity, this should be made known to the team. It should be recognised that in border regions, communities may include mobile peoples who traditionally traverse the international boundary, refugees and displaced peoples moving through the area or temporarily resident there, and that these people are affected by and can affect conditions of security in the TBCA.

Well-organised criminal operations can intimidate and exploit local communities living in and adjacent to TBCAs and specific attention should be paid to interaction with communities, both to ensure that they are not drawn into criminal operations or that they become victims of the situation. Long-term responses include assisting communities to achieve social and development goals which guard against depending on involvement in criminal activities as a way to subsist. Short-term responses include establishing good relationships with communities, and instituting informer networks to undermine criminal activities.

5.4.4 Assessing the local environmental context

The long-term objectives of the TBCA and its constituent parts in either country should be uppermost in the minds of those conducting a situation analysis. The biodiversity rationale for establishment of the TBCA could include maintaining the migration routes of species, maintaining connectivity between fragmented populations of animals or

plants, ensuring transboundary water flow between catchment areas and lowland freshwater ecosystems, or the persistence of breeding or feeding areas. It is essential that the security community take account of the specific spatial and functional requirements of biodiversity in the TBCA. The location of personnel, installations and equipment within the TBCA or where they would compromise the integrity of the TBCA should be avoided. The use of vehicles, aircraft, boats and military vehicles and apparatus should similarly be constrained by biological considerations in relation to noise and other disturbance, pollution or destruction. The use of anti-personnel weapons should be avoided as these often result in persistent threats to biodiversity as well as conservation management, tourism and community access.

5.4.5 Assessing the availability of security resources

A complete, categorised listing of security resources should be compiled, including the agencies involved, personnel, aircraft, vehicles and boats. As much information as possible regarding the location, capability and availability of these resources, including costs, should be obtained.

5.4.6 Assessing the legal context

Current information on applicable international and national laws should be available, and understood by the team. Issues that might have to be dealt with include the interpretation of treaties, protocols and memoranda of understanding, levels of authority to undertake specific operations, the collection of evidence, the implications of injury to or death of any party, and so on. If possible, legal expertise should be retained to assist the team.

5.4.7 Assessing tourism activities

Information on tourism facilities and operations, including the location and movement of tourist parties must be compiled. Any history of insecurity involving tourists and the consequent security operations and impacts should be compiled. It would also be useful to know whether there have been any negative impacts from previous security risks on tourism and tourism operations in the area. In addition, key tourism stakeholders should be identified, and their readiness to deal with insecurity assessed.

5.4.8 Assessing history of poaching or illegal harvesting of natural resources

Poaching may be a direct or indirect threat to the area and may be at the heart of any insecurity. Full information on incidences of poaching should be compiled, including types of poaching, poaching activities, locations, methods, transport methods and routes, conduits, and markets. Any collusion of TBCA staff should be recalled.

These and many other factors will inform the situation assessment, and the security team will have to assess the relevance and importance of all of this information in determining options for intervention.

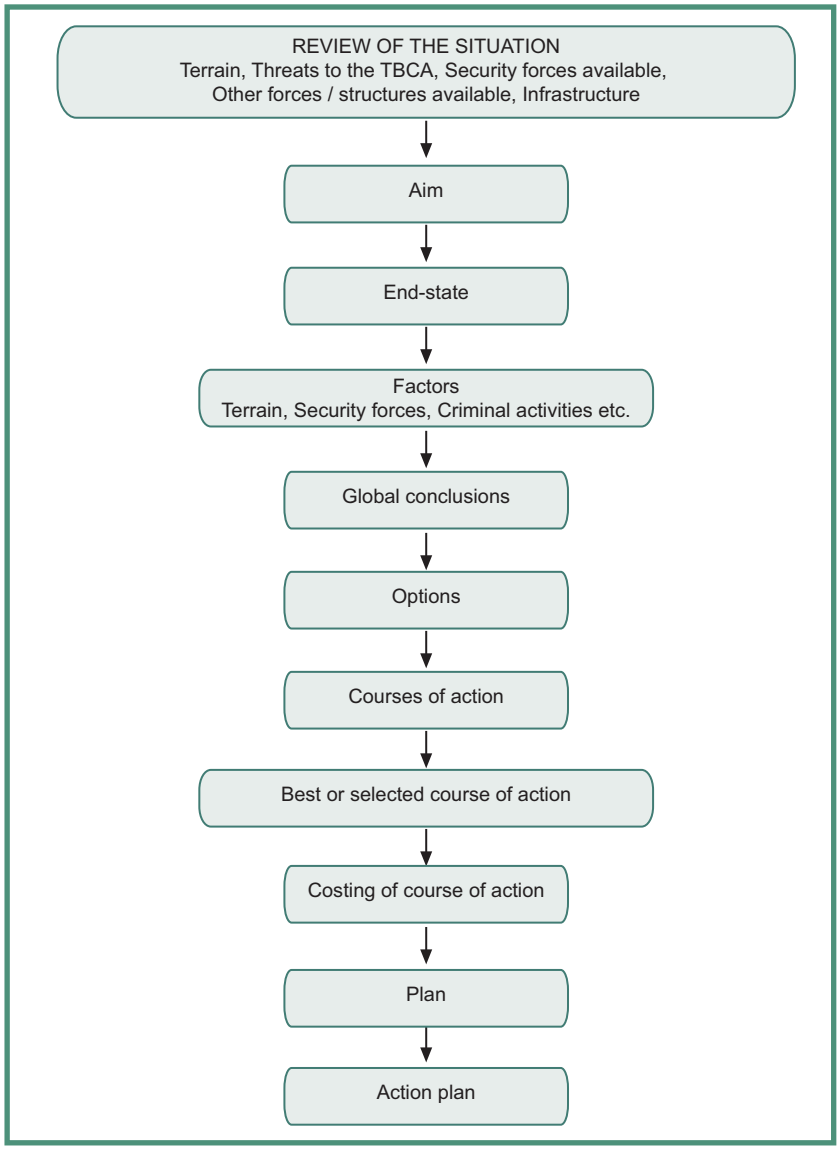
5.5 Determining the overall objective and desired end-state

The Chief in Charge may have been handed down an instruction to carry out a particular campaign, or may have identified the need for a campaign after assessing the security situation in the area. In either case clarity about the overall objective or objectives of the campaign, and the likelihood of achieving the campaign objectives in the manner proposed would have to be taken into account during the situation assessment.

Firstly, it will be necessary to determine the complexity of the operation. For example, the campaign may involve the search for contraband, the search for illegal immigrants, and/or a rescue mission. Each of these objectives will demand a particular type of operation, and where objectives are linked the timing and sequencing of related tasks will have to be clearly identified.

For some objectives, the tasks will be highly specific, such as a cordon and search operation. For others, such as a natural disaster, it might not be possible to be prescriptive and a range of possible tasks will be identified, such as search, transport, casualty evacuation, communications etc. The operational end-state must be explicit and achievable, understood by all involved in the security operation, and be endorsed by the relevant authorities.

Figure 5.2 Flow of analysis procedure



5.6 Determining intervention options and an action plan for implementation

Having analysed each factor and arrived at conclusions in each case, possible alternative intervention options must be determined, and the conditionalities and relative likelihood of success assessed under different scenarios. Alternative options can be developed as contingency plans. Each option should be documented in writing and communicated in the most effective way, including diagrams and other methods. This will enable the security team to elaborate the option into specific courses of action.

5.6.1 Courses of action

A Course of Action is made up of a series of intervention options that is considered by the team to have a high likelihood of success. In practice, at least two courses of action are identified, costed and evaluated in terms of effectiveness and feasibility. For example, each potential course of action is assessed from the perspective of the opponents, and where weaknesses are identified, the course of action is amended, or specific contingencies added.

5.6.2 Action plan

Once accepted, the approved course of action is developed into an Action Plan that sets out the objectives and sub-objectives together with responsibilities, time-frames and resources. The team has to determine to what extent there is scope for initiative, and this will determine the level of specific detail involved. For example a strategic action plan will include less detail and require greater initiative and a low-level tactical plan will provide precise detail (see Box 5.1).

It is however, very important to distinguish between the documentation of a course of action, and the control and management of the operation. The latter requires hands-on management of the flow and linkages among different elements of the campaign. These are referred to as Campaign Lines of Operation.

Box 5.1 High-level strategic action plan compared with low-level tactical plan

A low-level tactical action plan might stipulate that: *"Mr "X" is to take five rangers and drive in their allocated transport to Redhill and leave their vehicle there. They will walk unseen to the Gansi river, and at the first bend after the "S", establish an observation post with the aim of identifying all people who use the river. They will stay in position until day-break on the fourth day at which stage they will retrace their steps to their base".*

A high-level strategic plan might stipulate that: *"Mr "X" is to take control of the southern sector of the TBCA and bring to an end all illegal operations in the area. A progress report is to be presented at the end of four months. This process will constitute Phase One of Operation Clean-Up. Successful completion of this phase will result in the initiation of Phase Two, subject to any corrective actions needed prior to the start of Phase Two".*

Participants at a TBPA workshop in South Africa exchange ideas during Group Task session. © *Leo Braack*

5.6.3 Campaign lines of operation

Campaign lines of operation conducted in parallel will achieve the critical path of the operation. Lines of operation include not only the planned operations but also any contingency plans that may have been developed to cover possible shortfalls in the main plan. Lines of operation are linked at common decision points and "centres of gravity", and together are sufficient to achieve the desired end-state.

5.6.4 Evaluating the feasibility of the proposed plan

Any plan needs to be evaluated and tested to confirm it can work. The Chief in Charge and staff must confirm the feasibility of the plan before it is converted into an operational plan and the final costs are calculated. One method that is often used is to role-play the elements of the plan with the parties involved, although efforts have to be made to ensure discretion about the details of the plan. Where difficulties are identified, the plan has to be amended.

5.6.5 Tasking of actions

It is not the intention of this manual to prescribe methods that TBCA managers or security force personnel should use to convey instructions to their subordinates. Written instructions supported by verbal explanations are most effective.

Table 5.1 Example of a task table showing the complementarity of operation in a security campaign[3]

Desired end-state	**International poaching operation stopped**		
Lines of operation	**Task**	**Resources**	**Responsibility**
Air support (A)	A1. Air-lift of security personnel A2. Aerial observation of area A3. Airlift secondary personnel A4. Air support to P2 A5. Air support to P3 Standby MEDEVAC A6. MEDEVAC injured	Light aircraft Helicopters, one of which is fitted for MEDEVAC	Chief in Charge (CIC)
Police (P)	P1.Operational deployments start day 1 at 5:00 Identify problem areas P2. Find and destroy traps P3. Sweep area P4. Consolidation	14 police members Two detectives Six "sniffer" dogs	Police Chief; liaises with CIC
Rangers (R)	R1. Assist police; identify poacher bases R2. Deploy to block escape R3. Investigate evidence and support police	Six rangers per police group Six personnel as reserve Five rangers per escape route	Police Chief
Intelligence operatives (IO)	IO1. Deploy team to gain information IO2. Confirmation and observation of area IO3. Confirm effect of operations and social implications	Six operatives Helicopters	Operational CIC
Medical (M)	M1. Medics to accompany operational deployments; start day 1 at 5:00. Aid post at operational HQ ready M2. Continue deployment and assistance as required	One doctor in base Four medics with each police group	Police Chief liaises with doctor
Socio-economic measures (S)	S1. Initiate involvement in area and monitor results; determine any new capacity-building or other measures S2. Continue tasks and prepare feedback reports as well as impact analysis	Four skilled persons per area	TFCA CEO
Media (Me)	Me1. Conduct media and needs analysis prior to and during operation. Prepare press releases plus photos. Assist and safeguard media. Me2. Continuously monitor situation and keep CEO and CIC updated. All press releases to be approved by CEO and CIC.	Two media team per police group once operation in advanced/final stages One public relations officer designated and responsible for dealing with media	CEO at base; liaises with Police Chief and Operational CIC

[3] This example is drawn from a southern African operation. It is not intended to suggest that the kinds of resources listed here are necessary for all security situations or regions.

Overlooking a crater lake near the border between Kenya and Tanzania, conference delegates discuss implications of skewed distribution of water and other resources near international political boundaries, and how to reduce tensions and optimise opportunities associated with such inequitable distribution. © *Leo Braack*

Stakeholder participation is a critical and essential key in developing successful solutions to problems; here rural communities are being consulted about their opinions and suggestions. © *Leo Braack*

6. Monitoring, evaluation and capacity building for transboundary security

6.1 Monitoring the implementation and impact of TBCA security campaigns

Security campaigns are dynamic and risky and their implementation requires both short-term and long-term monitoring and evaluation that will measure progress. This knowledge will guide the adaptation of the campaign in the face of an emerging situation, and will facilitate the design of new elements of the campaign or of future campaigns.

6.1.1 Monitoring

The vision and objectives of a TBCA will set the overall framework within which specific security objectives are managed and monitored. Figure 6.1 illustrates a monitoring and evaluation cycle focusing on security objectives. In this case, monitoring and evaluation of security actions will be focused on:

- the overall security objective;
- the objective of a specific security campaign;
- the objectives of a specific course of action.

Monitoring also deals with two quite distinct elements, namely the outputs (i.e. those activities that are planned and executed by the security management team), and the impacts (i.e. the desired outcomes of the activities). It is necessary to monitor whether the security management team has been able to undertake all of the planned activities efficiently. Secondly, it is necessary to monitor whether this has had any impact on the state of the security environment, or the behaviour of any group or individuals involved.

Figure 6.1 Monitoring and evaluation cycle focusing on security objectives

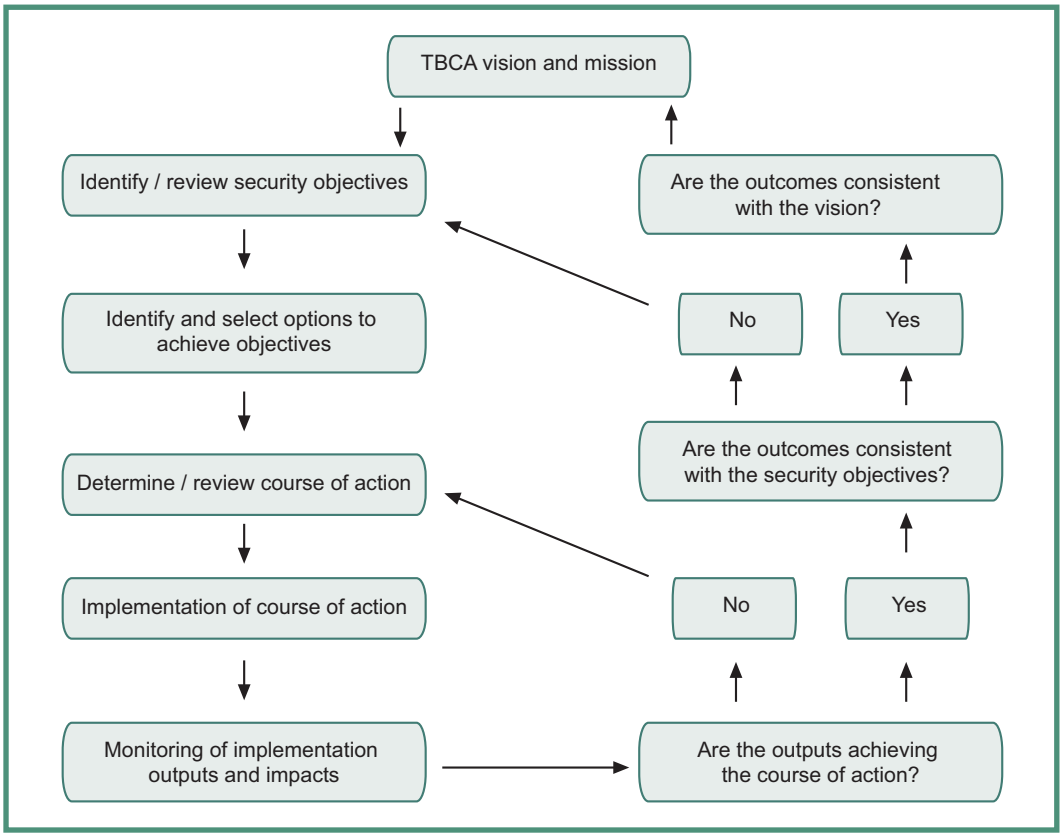


Table 6.1 Self-evaluation of TBCA security campaign effectiveness

Is there a comprehensive list of the security threats to the TBCA?	**Yes/No**	**Comment:**										
Are the various security issues ranked in terms of importance?	**Yes/No**	**Comment:**										
Are resources being allocated in accordance with the level of threat?	**Yes/No**	**Comment:**										
Has responsibility been assigned for the planning of security actions for each of the identified threats?	**Yes/No**	**Comment:**										
How well are actions to address priority threats being managed?	Consistently well		Satisfactory		Limited success		Consistently poorly					
Threat 1												
Threat 2												
Threat 3 etc.												
Comment:												
Is a periodic review of security actions undertaken?	**Regular meetings**		**Once per year**		**Less than once/year**		**No**					
Comment:												
Are security priorities receiving the policy, budgetary and management support they require?	Policy support		Budgetary support		Mgmt support		Comment					
	Yes	No	Yes	No	Yes	No						
Threat 1												
Threat 2												
Threat 3 etc.												
What are the factors contributing to sub-optimal achievement of security objectives (if any)?	Poor planning		Lack of funding		Staff shortages		Poor collaboration					
	Yes	No	Yes	No	Yes	No	Yes	No				
Threat 1												
Threat 2												
Threat 3 etc.												
Comment:												
Are there any other factors that affect achievement of security objectives?	**Yes/No**	**Comment:**										
Are remedies to overcome shortfalls being implemented?	**Yes/No**	**Comment:**										
What is the level of co-operation across the border among security stakeholders in the TBCA regarding key threats (co-operation ratings after Zbicz, 2001)	Level 0 None	Level 1 Communication		Level 2 Consultation		Level 3 Collaboration		Level 4 Coordination		Level 5 Co-operation		
Threat 1:												
Threat 2:												
Threat 3: etc.												
Comment:												

Table 6.1 Self-evaluation of TBCA security campaign effectiveness (cont.)

What is the level of co-operation across the border among the following groups of stakeholders?	Level 0 None	Level 1 Communication	Level 2 Consultation	Level 3 Collaboration	Level 4 Coordination	Level 5 Co-operation
Military/intelligence						
Police						
Conservation managers						
Local authorities						
Local communities/traditional leadership structure						
Comment:						

What is the level of co-operation among the different groups of security stakeholders (use rating scale Levels 0 – 5 above)	All groups	Military and police	Military, police and nature conservation	Military, police and local communities	Nature Conservation
Rating					
Comment:					

Which of the following communication systems are in place in the TBCA and what is their level of compatibility and use?	Fully compatible/ fully used	Satisfactory/ mostly used	Partly compatible/ poorly used	Not compatible not used
Radio				
Telephone (landlines)				
Telephone (mobile)				
E-mail				
Vehicles/boats				
Aircraft				
What measures could be instituted to improve compatibility?				
What measures could be instituted to improve use?				

Are there emergency protocols in place regarding TBCA security?	**Yes/No**	**Comment:**
Is there an agreed TBCA security strategy?	**Yes/No**	**Comment:**
Is there an agreed TBCA security action plan?		

Rate the level of co-operation in the implementation of the	Level 0	Level 1	Level 2	Level 3	Level 4	Level 5
TBCA security action plan	None	Communication	Consultation	Collaboration	Coordination	Co-operation

6.1.2 A simple monitoring questionnaire

Although monitoring and evaluation techniques will vary, we offer a simple questionnaire as a starting point for the security team to assess the status of their implementation of a security campaign (Table 6.1). A good starting point is an honest self-assessment conducted by each country participating in the TBCA. Alternatively if there is any joint TBCA steering committee or other management structure, the self-assessments could be reviewed jointly, or a joint assessment could be undertaken. The questionnaire should be regarded as a starting point for the discussion as the real value of the exercise is in the communication that it facilitates, and more importantly, where appropriate responses to security conditions are identified as a result. An electronic version of this questionnaire is available on www.tbpa.net [October 2006].

6.2 Capacity building

The requirements outlined above indicate quite clearly that the establishment and management of a TBCA require a whole range of unique skills and capabilities in addition to the normal operation of protected area management. Capacity building for effective nature conservation management remains a worldwide challenge. The skills required to address the dynamic security implications of TBCAs, and to facilitate and achieve effective co-operation and management, places further demands on capacity-building exercises. In addition, TBCA development requires that the personnel who make up the security community have compatible skills and complementary institutional frameworks within which to operate. Mutual trust and support in carrying out complex functions have to be developed. It is no small task to develop these skills among all components of the security community when personnel come from very different backgrounds.

Amongst other requirements, there is a need to develop capacity within the security community regarding:

- biodiversity, nature conservation, ecotourism and natural resource management;
- international conventions and agreements;
- policies and laws in each country;
- regulations and criminal proceedings;
- emergency procedures, including communications;
- rescue procedures;
- community consultation and involvement;
- language and customs;
- traditional authorities;
- humanitarian relief;
- refugees.

In certain countries, extraordinary measures are being put in place to develop this capacity, for example, the Southern African Wildlife College includes curricula that address many of these important requirements. In Europe, there are some specific instances where joint capacity building has been facilitated (see Box 4.1).

6.3 Providing support for capacity building

Elements of surprise and novelty are the methods and responses which those who threaten TBCA security as well as those maintaining security in TBCAs have in common. An awareness of the latest threats and methods and the ability to ensure the rapid availability of appropriate (and unexpected) responses is required. This demands that the security community is highly trained, confident and ready to respond at all times in an appropriate way. In addition, both the security community and the wider TBCA community should be mindful of the international context of their work. The Draft Code for Transboundary Protected Areas in Times of Peace and Armed Conflict (Appendix 1) provides a broad context with an international legal perspective for guiding the security community regarding both the principles and practice of TBCA development. It emphasises the principles and instruments that should be put in place even when there is no immediate security threat. This investment can go a long way towards avoiding the problems that can result from a lack of preparedness. The Draft Code should be an integral part of any training programme for the transboundary security community.

The circumstances, resources and expectations faced by the TBCA security community in different parts of the world varies widely, and it is therefore not possible to be prescriptive about the content of a training programme for TBCA security. In many cases, such as for the military, police, nature conservation agencies and the like, there are detailed manuals on security. Our purpose here is to provide an outline of a generic training programme that would at least help to bridge the gap that is sure to exist among different components within the security community who work together in a TBCA. In particular the military, police and intelligence forces should understand the purpose of the TBCA and the nature conservation managers, tourism operators, communities and local government structures should understand the protocols and requirements of security operations.

Table 6.2 includes a proposed outline for a two to three day programme covering most of the security aspects relevant to key TBCA stakeholders. The depth of discussion will determine the time required, and the programme should be tailored to meet the needs of the particular audience. For the purposes of this manual, stakeholders have been clustered into two main groups:

- security agencies involved in the planning, implementation or operation of TBCAs, where an understanding of the objectives and special considerations of TBCAs and the various elements and situations involved is developed;
- nature conservation, local authorities and local communities, where an understanding of the need for security measures and the nature of security campaigns and operations is developed.

Each TBCA should include a training programme for all involved in transboundary security operations, and this should be conducted whether or not there is a security threat.

Major bodies of water, such as this one in Tanzania, are often critical resource nodes for migratory species along their travel routes, without which the entire migration would collapse. Understanding such critical needs at regional level, and how to accommodate such regional needs, is essential if we are to ensure long-term viability not only of individual species but of entire systems. © *Leo Braack*

Table 6.2 Recommended scope of a training course for those involved in TBCA security campaigns

MODULE 1	**Conservation and security primer**
Purpose	To develop an understanding for an interdisciplinary approach to TBCA security
Participant activity	Self-assessment questionnaire regarding level of awareness of nature conservation, community, TBCA and security issues
Input	Rationale for biodiversity conservation
	Conservation models and methods, including protected areas and local community
	Rationale and potential of TBCAs to achieve biodiversity, peace, co-operation, social and economic development
	Security issues facing TBCAs
Insight	What are the major issues where conservation and security objectives are co-dependent
MODULE 2	**Case studies of Transboundary Conservation Areas**
Purpose	To identify the key characteristics of TBCAs and their institutional frameworks
Participant activity	Individual examples of TBCAs, leading to discussion of models and types
Input	International law as a basis for TBCA development, including conservation and security laws
Case studies	Case study analysis of types and scope of regional agreements e.g. SADC, ASEAN
	TBCA Agreements including Treaties, MoUs etc
	Joint protocols, strategies and management plans/operations
Synthesis	TBCA characteristics
MODULE 3	**Stakeholders and governance**
Purpose	To enable the identification of stakeholders, perceptions and processes
Input	Processes in which stakeholders are/should be involved
Case studies	Examples of TBCAs with stakeholder concerns identified
Participant activity	Identification of stakeholder interests and involvement. Stakeholder perceptions and expectations of TBCA development
Participant presentations	Existing governance arrangements in each country involving stakeholders
Input	Suggestions for participatory planning, adaptive management and conflict resolution
Synthesis	TBCA governance arrangements, e.g. community management forums, joint management commissions, steering committees and working groups
MODULE 4	**TBCA Security**
Purpose	To develop an understanding of the rationale for TBCA security operations and the complementary role of security stakeholders
Participant activity	The scope and purpose of security as seen from a variety of perspectives
Discussion	The implications of TBCA development for regional, national and local security
	The implications of TBCA development for different groups of stakeholders and interests
Input	Legal and operational considerations for TBCA security
	Dealing with emergencies, search and rescue, armed conflict
	The use of the Draft Code for transboundary protected areas in times of peace and armed conflict

Table 6.2 Recommended scope of a training course for those involved in TBCA security campaigns (cont.)

MODULE 5	**Planning and implementing a TBCA Security Campaign**
Purpose	To enable the effective planning and implementation of TBCA security campaigns
Case studies	Undertaking a security problem analysis
	Identifying the objectives of a security campaign
	Planning a course of action and individual action plans
Insight	Undertaking an assessment of a security campaign
MODULE 6	**Learning by doing**
Participant activity	A hypothetical security problem is described in a field setting, and participants are divided into three teams to plan and analyse a security response
Discussion	Reviewing the situation analysis
	Reviewing proposed course of action and action plan and roles and responsibilities
	Conducting a peer review of other groups' action plans
Insight	Developing a set of principles and personal action plans

International Workshops on transboundary issues, with participation from multiple countries, are a major help to ensure that officials and stakeholders from different countries and cultures understand the perspectives and problems of neighbours and the complexity of issues seen from regional level, often contributing to a more holistic and integrated approach towards security issues affecting adjoining nations. © *Leo Braack*

7. Summary guiding principles and recommendations for transboundary security programmes

No set of guidance can be comprehensive and applicable to every TBCA operation or security circumstance. It may be useful, however, to assess a particular TBCA situation or specific TBCA security programme against a checklist that includes key principles, good practice guidelines, and known problems or concerns. Table 7.1 includes recommendations offered as a basis for this assessment, which could be repeated periodically, and which could be used to generate appropriate responses for the security team to implement and monitor.

The key aspects summarised in Table 7.1 are:

1. Terminology
2 Inclusivity
3. Veterinary/health implications
4. Community implications
5. Biodiversity implications
6. Tourism implications
7. Immigration implications
8. Infrastructure implications
9. Communications implications
10. Institutional implications
11. Legal implications
12. Trade and customs implications
13. Human safety implications
14. Capacity-building implications
15. Military implications
16. Policing implications
17. Security campaign planning and management
18. Monitoring and review implications

The electronic templates for these forms can all be obtained on www.tbpa.net [October 2006]. The developers of TBCA programmes are invited to use these resources and make suggestions for their improvement by accessing www.tbpa.net and joining the various list-serve forums available on site.

JOIN THE IUCN/WCPA
Global Transboundary Conservation Network
by accessing **www.tbpa.net**
and following the links to Transboundary Security.

Table 7.1 Recommendations for TBCA security operations

		Current situation	Response/action
1.	**Terminology**		
1.1	Use standardised terminology e.g. Transboundary Conservation Area (TBCA) as an umbrella term, but accommodate regional and country differences		
1.2	As far as possible, reach agreement within any specific TBCA initiative on the use of terms for security operations as an aid to precise, unambiguous communication		
2.	**Inclusivity**		
2.1	Involve all components of the security community from the outset to achieve understanding, support and the inclusion of the widest range of perspectives • Nature conservation • Regional security forces • Military including intelligence • Police • Customs and excise • Immigration • Local government • Traditional authorities • Diplomatic staff and missions • Other stakeholders		
2.2	Identify the complete set of security implications that are generated by TBCA development proposals • Veterinary/health • Community access • Biodiversity • Conservation management operations • Tourism facilities and activities • Immigration • Infrastructure • Communications, including cultural and language differences • Institutions • Legal • Other implications		
3.	**Veterinary/health implications**		
3.1	Determine jointly agreed rules for the control of movement of people and animals across the border inside the TBCA		
3.2	Undertake a joint veterinary risk assessment and review of the compatibility of		

Table 7.1 Recommendations for TBCA security operations (cont.)

		Current situation	Response/action
	regulations and controls in each country		
3.3	Ensure that there are adequate control procedures to prevent the invasion of the TBCA by alien species or pathogens, and to prevent their transboundary transmission		
4.	**Community implications**		
4.1	Establish effective consultation and involvement of communities in decision making regarding proposals that affect their lives and livelihoods		
4.2	Ensure that existing and future rights of community access to movement and resources are negotiated and enshrined in agreements and protocols		
4.3	Identify cultural perceptions and attitudes to security		
4.4	Ensure that community, stock and crop safety is not compromised by decisions regarding introductions of dangerous animals		
4.5	Reach agreement on compensation for loss of access rights or damage to property		
4.6	Determine appropriate employment policies to ensure that local community expectations of benefits are attained		
4.7	Invest in capacity-building among local communities to enable them to take advantage of TBCA opportunities		
4.8	Place the community at the centre of concern with a rights-based approach to planning, development and management of the TBCA		
5.	**Biodiversity implications**		
5.1	Ensure that biodiversity objectives and priorities are taken into account in the planning and zonation of TBCA development, including the provision of infrastructure, tourism planning, and security planning		
5.2	Anticipate and develop contingency measures for priority components of biodiversity, should a risk of armed conflict materialise		
5.3	Undertake a TBCA-wide assessment of the status of alien invasive species and implement a jointly agreed programme of control or eradication		
6.	**Tourism implications**		
6.1	Restrict access by tourists to areas where security operations or tourist safety could be compromised, e.g. where landmines could be present		
6.2	Ensure that tourism planning processes incorporate security considerations		
6.3	Provide armed escorts where a security risk persists, but ensure that tourists are aware of the situation and the procedures involved		
6.4	Produce and use joint marketing materials that clearly indicate the degree of relaxation of border controls		
6.5	Conduct de-mining operations to remove risk of injury		

Table 7.1 Recommendations for TBCA security operations (cont.)

		Current situation	Response/action
7.	**Immigration implications**		
7.1	Designate borders and border control points in a manner consistent with the policies and procedures in each country		
7.2	Facilitate interaction among the immigration authorities of the countries involved in the TBCA with a view to creating an atmosphere of trust and co-operation		
7.3	Ensure that any financial implications of proposals for immigration infrastructure are submitted in time for budgetary processes		
8.	**Infrastructure implications**		
8.1	Designate and construct a mutually agreed set of roads, bridges, footpaths and other means of transit through the international border		
8.2	Construct appropriate border control facilities in mutually agreed locations, with a view to greatest efficiency (least cost of construction and ongoing management)		
9.	**Communications implications**		
9.1	Determine standards and guidelines for compatible communications infrastructure, protocols and controls for use across the whole TBCA, for conservation management, tourism management and security management purposes		
9.2	Determine and implement an agreed programme of enhancing compatible communications infrastructure to address priorities		
9.3	Determine standards and guidelines for the generation and maintenance of information to assist joint security operations		
9.4	Develop and apply communication procedures, including roles and responsibilities to support priority security, as well as emergency, search and rescue operations		
9.5	Conduct anticipatory, pre-emptive actions during times of peace and co-operation resulting in well-communicated strategies, plans and measures for dealing with conflict situations		
10.	**Institutional implications**		
10.1	Ensure that there are mandated joint communication, planning, coordination and ultimately management institutions in place to guide TBCA development, and that the principles and information contained in the Draft Code for Transboundary Protected Areas guides their discussions		
10.2	If possible, ensure that there is a hierarchy of institutions including high-level international institutions with representation at Head of State or ministerial level, joint technical committees representing sectoral functions in each country, and working groups that involve officials and other stakeholders responsible for implementation of specific responsibilities		

Table 7.1 Recommendations for TBCA security operations (cont.)

		Current situation	Response/action
10.3	Establish a high-level joint security working group or task force within the framework of TBCA agreements and coordination institutions		
10.4	Ensure that there is adequate representation of all stakeholder groups on TBCA coordination mechanisms, at different levels, appropriate to the functions of these institutions		
10.5	Development measures to avoid conflict materialising in and around the TBCA and develop an ethos of conflict resolution within all TBCA activities and communications		
10.6	Negotiate agreements pre-emptively with donors or neutral agents for support and access to resources at short notice to address specific threats during situations of armed conflict		
10.7	Facilitate joint working groups among groups of security stakeholders from each country, e.g. joint military working groups, joint police working groups and joint nature conservation working groups		
10.8	In addition to a high-level joint security working group consider the temporary or permanent establishment of a "security incidence management unit" depending upon the level of security threat that the TBCA is experiencing		
11.	**Legal implications**		
11.1	Review compatibility of existing laws and regulations in each country and develop a programme for consultation and harmonisation of laws applicable to the TBCA		
11.2	Provide assistance for the ratification of applicable international conventions and protocols that will facilitate TBCA development and management		
11.3	Ensure that wildlife regulations applicable to protected areas in each country enable joint and compatible wildlife protection and prosecution procedures		
11.4	Conclude extradition agreements among neighbouring states if these do not exist		
11.5	Incorporate the provisions of the Draft Code for Transboundary Protected Areas into all legal agreements regarding the TBCA		
11.6	Where it is not possible to achieve complete legal compatibility in all countries involved in the TBCA, ensure that any transboundary agreement includes a suitable protocol to ensure complementary responses		
12.	**Trade and customs implications**		
12.1	Take into account and harmonise the prevailing customs agreements or regulations applicable in each country involved in a TBCA		
13.	**Human safety implications**		
13.1	Determine the presence of anti-personnel weapons or other hazards generated by security operations and remove these or render them safe		

Table 7.1 Recommendations for TBCA security operations (cont.)

		Current situation	Response/action
13.2	Develop and implement a joint search and rescue procedure, supported by technical expertise appropriate to the context, e.g. mountain safety, kayaking safety		
13.3	Undertake a joint security risk assessment to identify the most likely causes of insecurity in the TBCA and engender a sense of co-operation among the TBCA security community in order to develop appropriate responses to these risks		
14.	**Capacity-building implications**		
14.1	Ensure that TBCA practitioners and stakeholders are fully conversant with the rationale for the establishment of TBCAs and the nature of seeking to fulfil multiple and sometimes conflicting goals		
14.2	Ensure that TBCA practitioners and stakeholders are fully conversant with applicable international laws, relevant regional or bilateral agreements and protocols, and national and local laws, including customary or traditional laws that pertain to the specific TBCA		
14.3	Ensure that all relevant personnel are competent to use communication procedures and equipment		
14.4	Ensure that all TBCA practitioners and stakeholders are aware of the Draft Code for Transboundary Protected Areas in Times of Peace and Armed Conflict and how they apply this to their individual areas of responsibility		
14.5	Ensure that all TBCA practitioners and stakeholders are aware of community needs, aspirations, rights and responsibilities as well as the governance arrangements applicable within each country and between the countries involved in the TBCA		
14.6	Ensure that all TBCA practitioners and stakeholders are aware of international humanitarian considerations, and in particular those applying to displaced peoples and refugees in times of armed conflict		
14.7	Ensure that nature conservation managers are skilled in patrol techniques, information gathering, legislation, collection of evidence, and court procedures in addition to their primary training in conservation biology		
15.	**Military implications**		
15.1	Reach and document agreement regarding the numbers of military personnel, number and type of military vehicles, aircraft and infrastructure, access routes, areas of activity, types of activity, use of weapons, and lines of communication and processes of interaction within the TBCA		
15.2	Encourage the military and intelligence community to develop sound communication and effective partnerships with their counterparts in other countries making up the TBCA		

Table 7.1 Recommendations for TBCA security operations (cont.)

		Current situation	Response/action
15.3	Undertake joint planning with the military for operations in times of peace as well as times of conflict to ensure that their operations within the TBCA are managed within acceptable limits of impact		
15.4	Encourage the use of the military capacity to monitor and respond to insecurity situations to be put to good use in routine monitoring of natural resources and ensuring TBCA integrity		
15.5	Facilitate interaction among conservation agencies and the local military commanders to build an understanding of biodiversity and tourism priorities, and to engage the military in their efforts to combat illegal activities such as poaching		
16.	**Policing implications**		
16.1	Reach and document agreement regarding the numbers of police personnel, number and type of police vehicles, aircraft and infrastructure, access routes, areas of activity, types of activity, use of weapons, and lines of communication and processes of interaction within the TBCA		
16.2	Encourage police to develop sound communication and effective partnerships with their counterparts in other countries making up the TBCA		
16.3	Ensure that policing operations are compatible including procedures for the apprehension and arrest of offenders, the collection and maintenance of evidence and the applicable court procedures		
17.	**Security campaign planning and management**		
17.1	Ensure that the objectives of TBCA security campaigns are closely related to the overall objectives of the TBCA and the individual country objectives		
17.2	Ensure that security campaigns conform to the principles espoused in the Draft Code and do not violate long-term biodiversity conservation goals, community development goals, economic development goals and the rights and values of the people involved		
17.3	Ensure that security campaigns include a comprehensive situation assessment, determination of achievable objectives, and a documented course of action, with clearly assigned roles and responsibilities		
18.	**Monitoring and review implications**		
18.1	Establish independent monitoring of the activities of the security community in TBCAs, including military, intelligence, police and conservation management operations		
18.2	Ensure that security campaign planning and implementation is supported by effective monitoring of both the efficiency (results) and effectiveness (impacts) of the operation in relation to the desired end-state		

Appendix 1

The Draft Code for Transboundary Protected Areas in Times of Peace and Armed Conflict (Sandwith *et al.*, 2001)

Explanatory notes

This Draft Code is offered to neighbouring States, jurisdictions and other stakeholders concerned with the establishment and management of TBPAs. It may be used in its present form or as a basis for developing a comparable code suited to the particular needs of a country or region. IUCN would welcome requests for technical assistance in interpreting the Draft Code and applying it to particular local or regional circumstances.

It is recommended that the Draft Code be made widely available to protected area authorities, key sectoral agencies, the armed forces (including border and coast guards), local governments, relevant non-governmental organisations, the media and other interested parties, especially in border regions.

A supportive education programme will be needed for this Draft Code to reflect the aims and guide the actions of all concerned interests. Awareness-building should be carried out on a continuing basis with all sectors of society, to foster broad acceptance of the need to conserve biodiversity and ecosystem services and to protect the integrity of TBPAs, even in emergency situations.

Rationale for the Draft Code

The Draft Code aims to contribute to the progressive development of legal and institutional frameworks for the establishment and management of TBPAs in times of peace or armed conflict.

Context

Many States, sub-national units and autonomous areas share at least one land, freshwater or marine boundary.

These boundaries were usually established for political or other social reasons, without reference to land or water systems. Often they divide ecosystems of particular importance for terrestrial or aquatic biological diversity.

Much of the world's remaining natural habitat is to be found in border regions, as political boundaries are often located in remote and sparsely populated areas with a distinct ecological identity to which animals, plants and human culture and practices have adapted over time. At the same time, border regions and their inhabitants may be particularly vulnerable to encroachment, dispute and armed conflict, which can be caused or aggravated by environmental degradation or unsustainable patterns of land and water use.

Progress to date

Transboundary co-operation can take many forms. Many States and stakeholders in civil society are already actively engaged in bilateral and regional initiatives on environmental and humanitarian issues. Co-operation over shared natural systems and resources can lay the foundation for deeper ongoing co-operation between neighbouring States, communities and other stakeholders. Moreover, the armed forces in many countries already play a constructive role in environmental conservation and management in border regions.

The international community, within and outside the United Nations system, has reached agreement on a series of legal instruments to address environmental and humanitarian issues. Many of these are particularly relevant to transboundary co-operation and to protection of border areas and communities (see Annex to the Draft Code).

Opportunities to extend transboundary co-operation

Natural systems that straddle political boundaries can be most effectively managed as functional units at the scale of the regional landscape and would therefore benefit from appropriate mechanisms for long-term transboundary co-operation. While the establishment of TBPAs for integrated conservation and development can enhance

environmental protection, it can also reinforce political security and provide multiple benefits to local communities and indigenous peoples.

The existence of TBPAs and their buffer zones can help reduce tensions, rebuild divided communities, promote freedom of movement and create new opportunities for sustainable development, including low-impact regional tourism. Such areas can also make an important contribution to regional biodiversity conservation programmes, especially where they form part of a coherent ecological network. Neighbouring States, which often have different levels of technical expertise, knowledge, capacity and financial resources, can benefit by combining their respective strengths through transboundary co-operation.

Part I. Introductory provisions

1. Objectives

This Draft Code proposes an enabling framework to promote transboundary co-operation through the establishment and management of TBPAs in order to:

(a) conserve biological and cultural diversity in major transboundary ecosystems, promote a culture of peace and enhance opportunities for sustainable development, particularly for local communities, indigenous peoples and women;
(b) promote the conservation and environmentally sound management of transboundary water catchment areas;
(c) promote the sustainable and equitable utilisation of natural resources in and around TBPAs;
(d) contribute to the development of equitable mechanisms for co-operation and benefit-sharing;
(e) contribute to conflict prevention and the building of trust, confidence and security;
(f) prevent or minimise any adverse impacts of military activities on TBPAs; and
(g) provide a tool for the peaceful settlement of disputes affecting TBPAs and the re-establishment of peaceful conditions and restoration of damaged ecosystems after armed conflict.

2. Use of terms

For the purpose of this Draft Code:

(a) "Transboundary[1] protected area (TBPA)" means an area of land and/or sea which straddles one or more boundaries between states, sub-national units such as provinces and regions, autonomous areas and/or areas beyond the limits of national sovereignty or jurisdiction, whose constituent parts are especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed co-operatively through legal or other effective means.
(b) A TBPA can be terrestrial, aquatic or mixed. Subject to national legislation, it may include land and water in public, communal and private ownership and management responsibilities may be allocated to public or private stakeholders.
(c) "State" should be interpreted, where the national context so requires, to include sub-national political units, such as provinces, regions and cantons, and autonomous areas that have competence for the establishment and management of protected areas.
(d) "Water" includes atmospheric, marine, ground and surface fresh water. References to "aquatic" should be interpreted accordingly.
(e) "Armed conflict" refers to any violent conflict, whether international or non-international, whether declared or not, and whether the parties to the armed conflict are regular or irregular armed forces.
(f) "Dispute" refers to any non-violent conflict.

[1] The Draft Code uses the term "transboundary" consistently with the terminology used in several treaties (e.g. Convention on Migratory Species, ASEAN) and by many institutions (e.g. Conference of the Parties to the Convention on Biological Diversity, The World Conservation Union (IUCN)). However, it is recognised that appropriate terminology will vary between regions and countries. "Border" and "transborder" are commonly used in the United States but less in Europe or Africa. "Frontier" and "transfrontier" are used in Europe (the French translation is transfrontalière) and in Southern Africa, but are less appropriate to the American context. The terms "frontera" and "transfrontera" are widely used in Spanish.

3. Scope

This Draft Code applies to TBPAs that are managed, without prejudice to the sovereign equality and territorial integrity of the States concerned, to conserve biological and cultural diversity and promote peace and security.

Many of its provisions are also relevant to:

(a) areas managed for environmentally sound and sustainable development around TBPAs;
(b) natural areas located near to political boundaries that are or could be managed for conservation and peace objectives; and
(c) other protected areas within or beyond the limits of national jurisdiction.

Part II. Basic principles and duties

4. Environmental rights and responsibilities

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to utilise their resources to meet their environmental and sustainable development needs, and the responsibilities:

(a) to protect and preserve the environment within the limits of their national jurisdiction; and
(b) to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond national jurisdiction.

5. Co-operation

States and other stakeholders shall co-operate on the basis of equity and reciprocity to conserve, manage and restore or rehabilitate biological and cultural diversity in TBPAs. They should ensure that utilisation of natural resources is sustainable and that benefits are shared equitably, taking into account the rights, interests and respective capacities of local communities, indigenous peoples and other stakeholders.

6. Prevention

Protection of the environment is best achieved by preventing environmental harm rather than by attempting to remedy or compensate for such harm. Programmes, policies and activities in and around TBPAs should be planned and conducted so as to prevent or minimise such harm.

7. Precaution

In decision-making affecting TBPAs and their immediate surroundings, lack of scientific certainty shall not be used as a reason to postpone action to avoid potentially serious or irreversible harm to the TBPA.

8. Transboundary environmental effects

Where a proposed activity may generate transboundary environmental harm, especially to a protected area, an environmental and, where appropriate, social impact assessment shall be undertaken. There should be prior and timely notification to potentially affected States and consultation should be carried out in good faith with such States and with potentially affected persons.

Potentially affected persons in other States shall be granted access to and due process in administrative and judicial proceedings, without discrimination on the basis of residence or nationality.

9. Military and hostile activities

States with legal authority over a protected area should not use it for strategic or military purposes. Military and hostile activities damaging to TBPAs shall be avoided. Consideration should be given to formally demilitarising TBPAs.

Part III. Establishment and management of TBPAs

10. Basic legal and institutional framework

Each State should establish or, where necessary, strengthen its legal and institutional framework for the creation and effective management of a representative system of protected areas. Such a system should specifically provide for:

(a) the conservation of areas containing major ecosystems, endangered habitat types, high biodiversity and high endemism, through a range of protected area management categories providing for different conservation objectives;
(b) the linking of protected areas via natural habitat corridors into bioregional networks to encourage natural animal movements, the connection of populations and gene pools and rational conservation and management of biodiversity;
(c) the establishment of buffer zones around protected areas to promote environmentally sound and sustainable development, including wildlife-based forms of land-use and low-impact tourism; and
(d) the incorporation of measures to safeguard the integrity of protected areas into regional land-use planning and sectoral programmes and policies.

11. Establishment of TBPAs

1. Special consideration should be given to establishing contiguous protected areas to promote environmental protection, peace and development in the following situations:
   (a) where a natural system or water catchment straddles one or more boundaries and, consistently with the ecosystem approach, should be managed as a single ecological unit to maintain essential ecological processes and life-support systems;
   (b) where local communities and indigenous peoples in natural areas are linked across boundaries by shared ethnic or socio-cultural characteristics, traditions and practices;
   (c) where the management or use of shared natural resources is or may become a locus of contention;
   (d) where a boundary dispute involves unresolved claims to land or marine areas; or
   (e) to rebuild confidence and security for local communities and indigenous peoples and provide a stable foundation for conservation and sustainable development after a period of armed conflict.
2. Where a State or other stakeholder wishes to establish or enlarge a protected area contiguous to a boundary, all parties concerned should co-operate in examining the possibility of establishing a corresponding protected area or appropriate conservation measures on the other side of the boundary. Where appropriate, the States concerned should consider proposing such areas for joint designation under relevant multilateral environmental instruments.
3. The public, including affected local communities and indigenous peoples, non-governmental organisations, women's organisations and other stakeholders, shall be consulted as part of a transparent and participatory process before any decision is taken to establish or enlarge a protected area contiguous to a boundary. Where practicable, issues related to land tenure and rights of access to and use of natural resources in the TBPA shall be taken into consideration during this consultation process.
4. Where appropriate, States or other stakeholders may call on the good offices of a neutral third party to facilitate consultation over the establishment of contiguous protected areas as well as the development of harmonised policies and management plans for the area.

12. Legal basis for co-operative management of TBPAs

1. States should use their best endeavours to remove legal and institutional obstacles to co-operation, harmonise relevant legal measures and establish a positive framework for co-operative management of the TBPA concerned.
2. Appropriate frameworks will vary for each TBPA. They may be strengthened over time to reflect changes in circumstances, capacity and political and public awareness. The range of options includes:
   (a) formal agreements between neighbouring States to consult and co-operate with each other, ranging from a bilateral treaty to a joint declaration, memorandum of agreement or letter of intention;
   (b) delegation by each State of powers to a designated authority to coordinate the management of the protected area with that of the contiguous protected area, to implement agreed conservation and management objectives and to enter into further agreements for this purpose;
   (c) administrative agreements between counterpart environment, resource management and/or planning agencies, such as memoranda of understanding or co-operation;
   (d) creation of a single management authority for the TBPA;
   (e) customary or vernacular resource management agreements that provide a basis for establishing collaborative management processes with indigenous peoples, local communities and local governing bodies;

(f) contractual agreements between relevant stakeholders, including private sector interests and non-governmental organisations; and
(g) the designation of focal points or programme coordinators for the TBPA as a whole, or for each of its constituent parts.

3. States and other stakeholders shall carry out exchange of information, notification, timely consultation and other forms of co-operation regarding the TBPA in the spirit of good neighbourliness.

13. Harmonised or joint management planning

1. Competent authorities and other stakeholders with rights and interests in the TBPA should co-operate to develop compatible strategies for long-term conservation and management of the area concerned. They should take account of sustainable traditional practices, different levels of institutional and technical capacities and the need for mutual assistance and support in implementing agreed management objectives.
2. Harmonised, coordinated or joint management planning and programmes should be developed for the specific purposes outlined below:
   (a) capacity building;
   (b) wildlife management, including population control where appropriate;
   (c) ecological monitoring;
   (d) promotion of regional opportunities for low-impact tourism. Where possible, this should include the lifting or relaxation of border controls for visitor movements within the TBPA;
   (e) planning of appropriate infrastructure for visitor access and other compatible human activities;
   (f) strategic environmental assessment, environmental impact assessment and risk assessment procedures;
   (g) public information, community awareness, education and research;
   (h) co-operative law enforcement, involving members of local communities where appropriate; and
   (i) financial planning and fundraising, including where appropriate measures for the equitable apportionment of revenues generated by constituent parts of the TBPA.
3. Effective management of the TBPA should be based on constructive relationships with:
   (a) national, sub-national and local authorities;
   (b) sectoral authorities (especially those with jurisdiction over environment, natural resource management, tourism, water resources, planning, mining, foreign affairs, customs and immigration, defence, maritime affairs and coastguard services);
   (c) the private sector (especially companies and individuals that carry out activities that may affect implementation of the protected area management plan);
   (d) local and, where applicable, national non-governmental organisations;
   (e) inter-governmental organisations (including, where applicable, the institutions established under multilateral environmental agreements, including the regional seas conventions); and
   (f) the media.

14. Environmental impact assessment

Strategic, environmental and, where appropriate, social impact assessments shall be conducted, in accordance with international best practice, for programmes, policies and activities which may have adverse impacts on TBPAs, taking into account their scope, duration, intensity and potential cumulative impacts when combined with other activities.

15. Emergency planning for TBPAs

1. In order to safeguard TBPAs in emergency situations, including natural disasters, States and other stakeholders should co-operate to establish emergency prediction and information procedures and to plan coordinated responses.
2. Where appropriate, joint emergency response procedures should be developed with regard to armed conflict in or around TBPAs.

16. Defence planning and military activities in times of peace

1. All armed forces should adopt and publish appropriate environmental guidelines, especially applicable to rules of engagement. Potential adversaries should be invited to conform to reciprocal humanitarian and environmental constraints.
2. In furtherance of the Draft Code, armed forces and other interested parties shall be informed of the location of and rules or guidelines applicable to TBPAs. These rules and guidelines should be incorporated into relevant military manuals.

3. States and other stakeholders should not locate military personnel, installations and equipment in or near to TBPAs where this could generate environmental harm to such areas. The testing or use of weapons, including landmines, should be prohibited in TBPAs.
4. Contiguous states may co-operate to designate high-priority protected areas as non-defended localities or demilitarised zones under Articles 59 and 60 of Additional Protocol I to the Geneva Convention of 12 August 1949 (see Annex to Draft Code). Areas designated for this purpose should be completely demilitarised and permitted activities should be limited to those compatible with the management plan. Provision should be made for enhanced protection, monitoring, early warning and reporting mechanisms where the natural and/or cultural values of the area are under threat. High-priority protected areas may in particular include:
   (a) sites designated as World Heritage Sites under the 1972 Convention for the Protection of the World Cultural and Natural Heritage and sites designated for protection under the 1954 Convention on the Protection of Cultural Property in the Event of Armed Conflict;
   (b) transboundary sites of international importance that are wholly or partly included in the Ramsar List of Wetlands of International Importance, the World Network of Biosphere Reserves or regional lists or networks of specially protected areas.

17. Establishment of offences concerning TBPAs

States should take all measures necessary to establish jurisdiction, create offences relating to damage to TBPAs during armed conflict and empower designated institutions to prosecute alleged offenders and take enforcement action. Such offences may include:

(a) making TBPAs and the natural resources within them the object of attack;
(b) using the TBPA or its immediate surroundings in support of military action;
(c) causing significant, widespread, or long-term environmental damage to a TBPA.

Part IV. TBPAs in times of armed conflict

18. General obligations

All armed forces, whether regular or irregular, should continue to observe the principles and rules of international environmental and humanitarian law to which the parties to the conflict are bound in times of peace. Natural and cultural resources shall not be pillaged under any circumstances.

19. Rules specific to TBPAs

1. Parties to the armed conflict shall not take action to turn the TBPA into a military objective or use it for any strategic advantage.
2. The parties shall take all practicable steps to protect the TBPA from attack and, if attacked, to minimise any damage to the area.
3. The parties shall take all feasible precautions in their choice of means and methods of attack with a view to avoiding or minimising incidental damage to TBPAs.
4. If a party to the armed conflict moves military installations, equipment or personnel into the TBPA, or otherwise takes action that converts the TBPA into a military objective, the TBPA may lose its immunity from attack while it remains a military objective. However, any military response measures shall:
   (a) be decided upon only by the highest operational level of command
      (i) on the basis of exercising the legitimate right of self-defence,
      (ii) only if the attack is the sole militarily feasible option,
      (iii) taking all feasible precautions in the choice of means and methods of attack, with a view to avoiding or minimising direct and incidental damage to the area, and
      (iv) only after advance warning is issued to opposing forces allowing reasonable time for those forces to redress the situation;
   (b) be proportionate to the military objectives involved, with a view to minimising direct and incidental damage to the TBPA; and
   (c) be cancelled or suspended if it becomes apparent that the damage to the TBPA will be excessive or disproportionate.

5. If a single armed force occupies the TBPA, those with authority for that force shall comply with the objectives and rules applicable to the TBPA.

20. Steps towards negotiation and resolution

1. If armed conflict or other complex emergency situations develop that are outside the control of the protected area authorities, these authorities or other stakeholders should immediately appeal to all parties to the conflict to respect the integrity of the protected area and to abide by the environmental and humanitarian principles of this Draft Code. This appeal may be public or private, as appropriate. It shall be clearly neutral in character and have no intent to give strategic advantage to any party to the armed conflict. Liaison, where appropriate, may be carried out by a neutral third party, such as the International Committee of the Red Cross or IUCN – The World Conservation Union.
2. States or other stakeholders may urgently seek the good offices of the Secretary General of the United Nations, UNESCO, the President of the International Committee of the Red Cross, IUCN, regional economic integration organisations, non-governmental organisations or other bodies for help in negotiating an end to the conflict or complex emergency situation and obtaining humanitarian and other assistance.
3. Where an armed conflict threatens internationally-protected habitats or populations of species, possibly through increased poaching and illegal wildlife trade, States or other stakeholders should urgently notify the relevant treaty secretariats to promote the adoption of available sanctions or recommendations by Parties to the instruments concerned.

21. Displaced people and refugees

Where a TBPA or its immediate surroundings becomes a refuge for displaced people or refugees, the protected area authority, other competent authorities and outside agencies shall co-operate closely to minimise adverse impacts on the area concerned in accordance with the UNHCR Guidelines on Prevention of Environmental Impacts Related to Refugees Operations (UNHCR, 1996).

Part V. TBPAs after armed conflict

22. Identification and assessment of damage

States and other stakeholders should co-operate to identify and assess damage inflicted on the natural and cultural environment of a TBPA as a result of activities associated with armed conflict, as well as sources of disturbance that continue to threaten the area.

23. Restoration and rehabilitation

1. Plans should be developed by local, regional/provincial and national government agencies in close consultation with affected local communities, indigenous peoples and other stakeholders to restore and rehabilitate the natural and cultural integrity of the TBPA.
2. Priority for environmental restoration should be given to habitats of rare, threatened and endemic species, to critical native vegetation communities and to fragmented natural areas and corridors. Measures should be taken to remove or contain continuing sources of disturbance to the TBPA. All emplaced land mines and other explosive remnants of war should be located and rendered harmless.
3. Relief and development funding should be directed according to the priorities agreed during the restoration and rehabilitation planning process.
4. To maintain donor confidence, it may be beneficial to establish emergency trust or out-of-country funds until long-term peace is assured.

24. Post-conflict policy changes

Post-conflict policy changes should be subject to impact assessment, and subsequently monitored, where they may adversely affect a TBPA. Key programmes and projects for prior assessment may include the establishment of refugee, agriculture and livestock resettlement areas and the authorisation of new infrastructure or industrial and extractive operations in or near to the area concerned.

25. Enforcement measures

1. States shall take all necessary measures, where appropriate in co-operation with other States and/or relevant international bodies, to prosecute those alleged to have committed offences relating to TBPAs.
2. Where appropriate, States shall co-operate to facilitate the extradition of those persons charged with offences relating to implementation of this Draft Code.
3. Consideration should be given to seeking compensation and reparation to promote the restoration and rehabilitation of the TBPA concerned.

Part VI. Measures to promote and enhance compliance

26. Compliance and dispute avoidance

States and other actors involved in managing TBPAs shall co-operate to ensure compliance with this Draft Code and to avoid disputes. Procedures and mechanisms to enhance compliance should be simple, transparent and non-confrontational and may include joint or impartial third-party fact-finding missions and the provision, to the extent possible, of technical and financial assistance.

27. Peaceful approaches to settlement of disputes

If a dispute over the interpretation and application of this Draft Code does arise, States and other actors should seek resolution through peaceful means, such as:

(a) negotiation and enquiry;
(b) mediation and conciliation, where appropriate through the good offices of neutral countries, regional agencies or arrangements, or appropriate organisations;
(c) arbitration or judicial settlement.

28. Relationship between the Draft Code and international conventions

The provisions of this Draft Code should be read consistently with the rights and obligations established under existing international agreements, except where the exercise of such rights and obligations would seriously threaten a TBPA. Parties shall implement this Draft Code with regard to the marine environment consistently with the rights and obligations under the 1982 United Nations Convention on the Law of the Sea.

29. Financial support

To maximise the potential benefits of transboundary conservation, States, inter-governmental agencies, non-governmental organisations, public and private bodies and individuals are encouraged to provide technical assistance and financial or other support at the request of the States or protected area authorities concerned.

30. Monitoring and revising the Draft Code

The Draft Code is a dynamic instrument that may need to be updated at intervals to take account of legal, ethical, socio-economic and technical developments and constraints and to ensure that it is both relevant and effective. It should be considered for review, by appropriate bodies and States that have endorsed the Draft Code, at intervals of five years or less where considered necessary.

Annex to the Draft Code

Components of the international legal regime on environmental and humanitarian issues

(a) *Instruments for conservation, sustainable use and restoration of biological diversity and ecosystem services across boundaries*

- Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar, 1971);
- Convention for the Protection of the World Cultural and Natural Heritage (Paris, 1972);
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington, 1973);
- Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1979);
- Convention on the Law of the Sea (Montego Bay, 1982);
- World Charter for Nature (New York, 1982);
- Convention on Biological Diversity (Rio de Janeiro, 1992);
- United Nations Framework Convention on Climate Change (Rio de Janeiro, 1992);
- Rio Declaration on Environment and Development (Rio de Janeiro, 1992);
- United Nations Convention to Combat Desertification (Paris, 1994);

- Convention on the Law of the Non-Navigational Uses of International Watercourses (New York, 1997), as well as relevant regional and bilateral conservation instruments and relevant protocols to certain regional seas conventions.

(b) *Instruments concerning respect for human rights*

- Universal Declaration of Human Rights (New York, 1948);
- Convention on the Prevention and Punishment of the Crime of Genocide (New York, 1948);
- Convention Relating to the Status of Refugees (Geneva, 1951) and its Protocol Relating to the Status of Refugees (New York, 1967);
- International Convention on the Elimination of All Forms of Racial Discrimination (New York, 1965);
- International Covenant on Civil and Political Rights (New York, 1966);
- International Covenant on Economic, Social and Cultural Rights (New York, 1966);
- Convention on the Elimination of All Forms of Discrimination against Women (New York, 1979);
- Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (New York, 1984);
- ILO Convention concerning Indigenous and Tribal Peoples in Independent Countries (Geneva, 1989);
- Convention on the Rights of the Child (New York, 1990).

(c) *Instruments prohibiting environmentally damaging methods or means of warfare and/or mandating protection of the natural or cultural environment against avoidable harm in areas of armed conflict*

- Convention on the Protection of Cultural Property in the Event of Armed Conflict (The Hague, 1954);
- Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations (New York, 1970);
- Convention on the Prohibition of Military or any other Hostile Use of Environmental Modification Techniques (New York, 1976), Protocols I and II Additional to the Geneva Convention of 12 August 1949 respectively relating to the Protection of Victims of International Armed Conflicts (Berne, 1977);
- Protection of Victims of Non-International Armed Conflicts (Berne, 1977);
- Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to have Indiscriminate Effects (New York, 1981);
- Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (New York, 1993);
- Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (Ottawa, 1997);
- Statute of the International Criminal Court (New York, 1995);
- The customary law of war and the IUCN Draft Convention on the Prohibition of Hostile Military Activities in Protected Areas.

Appendix 2

Some useful case studies and references that deal with transboundary security considerations

Alsdirawi, F. and Faraj, M. 2004. Establishing a transboundary peace park in the demilitarized zone on the Kuwaiti/Iraqi borders. *Parks* 14: 48–55.

Ankersen, T.T. 1994. The MesoAmerican Biological Corridor: the legal framework for an integrated, regional system of protected areas. *Journal of Environmental Law and Litigation* 9: 499–549.

Baur, D.C., Misenko, D.R. and Irving, W.R. 2004. Putting "Protection" into Marine Protected Areas. *Vermont Law Review* 28: 497–577.

Bishop, T. and Garnett, T. 2000. *Civil Conflict and the Environment in the Upper Guinea Forests of West Africa/Conflit civil et l'environnement dans les forets de la Haute Guinee en Afrique de l'Ouest*. Biodiversity Support Program, Disasters and Biodiversity Project, Washington, DC, USA. Available at www.bsponline.org [October 2006].

Blom, A. and Yamindou, J. 2001. *A Brief History of Armed Conflict and its Impact on Biodiversity in the Central African Republic/Une brève histoire sur les conflits armés et ses impacts sur la biodiversité en République centrafricaine (RCA)*. Biodiversity Support Program, Washington, DC, USA. Available at www.bsponline.org [October 2006].

Braack, L.E.O. 2004. African National Parks under Challenge: novel approaches in South Africa may offer respite. In: Gordon, M. and Bartol, S. (Eds). *Experimental approaches to Conservation Biology*. University of California Press, Los Angeles, USA.

Causey, B.D. 2003. Success factors in the implementation and management of aquatic protected areas. In: Beumer, J.P., Grant, A. and Smith, D.C. *Aquatic protected areas: what works best and how do we know?* World Congress on Aquatic Protected Areas, Cairns, Australia, August 2002, Australian Society for Fish Biology, 275–284.

Chevalier, C. 2004. *The project of International Marine Park in the Mouths of Bonifacio in international law: towards an improved conservation regime of the marine environment in the Mediterranean*. IUCN Centre for Mediterranean Cooperation, Malaga, Spain. Available from www.iucn.org/places/medoffice/documentos/Case-study%20-MPMB.pdf [October 2006].

Convention on Biological Diversity, 5 June 1992.

Danby, R.K. and Slocombe, D.S. 2002. Protected Areas and Intergovernmental Cooperation in the St. Elias Region: Alaska/Yukon Territory/British Columbia. *Natural Resources Journal* 42: 247–82.

Day, J., Hockings, M. and Jones, G. 2003. Measuring effectiveness in marine protected areas: principles and practice. In: Beumer, J.P., Grant, A. and Smith, D.C. *Aquatic protected areas: what works best and how do we know?* World Congress on Aquatic Protected Areas, Cairns, Australia, August 2002, Australian Society for Fish Biology, 401–414.

Debonnet, G. and Hillman-Smith, K. 2004. Supporting protected areas in a time of political turmoil: the case of World Heritage sites in the Democratic Republic of Congo. *Parks* 14: 9–16.

De Fontaubert, C. and Agardy, T. 1998. Critical analysis of the SPAW Protocol: the dilemma of regional cooperation. *The University of Miami Inter-American Law Review* 30: 85–98.

De Villiers, B. 1999. *Peace Parks – The Way Ahead: International Experience and Indicators for Southern Africa*. HSRC Publishers, Pretoria, South Africa.

The DMZ Forum (for Peace and Nature Conservation). 2003. *Toward Peace and Environmental Security for Korea*. The DMZ Forum, Inc, East Meadow, NY, USA.
Available at www.dmzforum.org [October 2006].

Draulans, D. and Van Krunkelsven, E. 2002. The impact of war on forest areas in the Democratic Republic of Congo. *Oryx* 36: 35–40.

Dudley, J.P., Ginsberg, J.R., Plumptre, A.J., Hart, J.A. and Campos, L. 2002. Effects of war and civil strife on wildlife and wildlife habitats. *Conservation Biology* 16: 319–329.

Dudley, J.P. and Woodford, M.H. 2002. Bioweapons, biodiversity, and ecocide: potential effects of biological weapons on biological diversity. *Bioscience* 52: 583–592.

Griffin, J., Cumming, D., Metcalf, S., t'Sas-Rolfes, M., Singh, J., Chonguica, E., Rowen, M. and Oglethorpe, J. 1999. *Study on the Development of Transboundary Natural Resource Management Areas in Southern Africa*. Biodiversity Support Programme, Washington, DC, USA. Available at www.bsponline.org [October 2006].

Gullett, W. 2003. Legal framework and enforcement experience of marine protected areas in Tasmania, New South Wales and Commonwealth waters. In: Beumer, J.P., Grant, A. and Smith, D.C. *Aquatic protected areas: what works best and how do we know?* World Congress on Aquatic Protected Areas, Cairns, Australia, August 2002, Australian Society for Fish Biology, 388–397.

Hall, J. and Bui Thi Thu Hien. 2003. Establishing marine protected areas in Vietnam: a capacity-building approach. In: Beumer, J.P., Grant, A. and Smith, D.C. *Aquatic protected areas: what works best and how do we know?* World Congress on Aquatic Protected Areas, Cairns, Australia, August 2002, Australian Society for Fish Biology, 229–239.

Hall-Martin, A. and Modise, S. 2002. Existing and Potential Transfrontier Conservation Areas in the SADC Region. Unpublished report prepared for and funded by the Peace Parks Foundation, the Regional Tourism Organisation of Southern Africa, and the Development Bank of Southern Africa.

Hart, T. and Mwinyihali, R. 2001. *Armed conflict and biodiversity in sub-Saharan Africa: the case of the Democratic Republic of Congo (DRC)/Conflits armés et la biodiversité en Afrique sub-Saharienne: Le cas de la République Démocratique du Congo (RDC)*. Biodiversity Support Program, Washington, DC, USA. Available at www.bsponline.org [October 2006].

Hatton. J., Couto, M. and Oglethorpe, J. 2001. *Biodiversity and war: a case study of Mozambique*. Biodiversity Support Program, Washington, DC, USA. Available at www.bsponline.org [October 2006].

Hewitt, C.L., Willing, J., Bauckham, A., Cassidy, A.M., Cox, C.M.S., Jones, L. and Wotton, D.M. 2004. New Zealand marine biosecurity: delivering outcomes in a fluid environment. *New Zealand Journal of Marine and Freshwater Research* 38: 429–438.

IUCN. 2003. A global network to support the development of transboundary conservation initiatives. *Journal of International Wildlife Law and Policy* 6: 302–3.

IUCN. 1994. *Guidelines for protected area management categories*. CNPPA with the assistance of WCMC. IUCN, Gland, Switzerland and Cambridge, UK.

IUCN. 2003. Protecting marine biodiversity and ecosystem processes through marine protected areas beyond national jurisdiction. *Journal of International Wildlife Law and Policy* 6: 292–5.

Jacobs, M.J. and Schloeder, C.A. 2001. *Impacts of conflict on biodiversity and protected areas in Ethiopia*. Biodiversity Support Program, Washington, DC, USA. Available at www.bsponline.org [October 2006].

Kalpers, J. 2001. *Overview of armed conflict and biodiversity in sub-Saharan Africa: impacts, mechanisms and responses/Document de synthèse: conflits armés et biodiversité en Afrique subsaharienne: impacts, mécanismes et réponses*. Biodiversity Support Program, Washington, DC, USA. Available at www.bsponline.org [October 2006].

Kalpers, J. 2001. *Volcanoes under siege: impact of a decade of armed conflict in the Virungas/Les volcans en état de siège: impact des dix années de conflits armés sur le massif des volcans Virunga*. Biodiversity Support Program, Washington, DC, USA. Available at www.bsponline.org [October 2006].

McNeely, J. 2000. War and biodiversity: an assessment of impacts. In: Austin, J. and Bruch, C. (Eds). *The environmental consequences of war: legal, economic, and scientific perspectives*. Cambridge University Press, Cambridge, UK.

Meyerson, L.A. and Reaser, J.K. 2003. Bioinvasions, bioterrorism, and biosecurity. *Frontiers in Ecology and the Environment* 1: 307–314.

Mishra, C. and Fitzherbert, A. 2004. War and wildlife: a post-conflict assessment of Afghanistan's Wakhan Corridor. *Oryx* 38: 102–105.

Oglethorpe, J., Shambaugh, J. and Kormos, R. 2004. Parks in the crossfire: strategies for effective conservation in areas of armed conflict. *Parks* 14: 2–8.

Petermann, T. and Braak, L.E.O. (Eds). 2002. Workshop on Transboundary Protected Areas: (in southern and eastern Africa) guidelines for good practice and implementation held at Golden Gate National Park, South Africa, 25–30 November, 2002. Available at www.tbpa.net/ [October 2006].

Pimentel, D., Zuniga, R. and Morrison, D. 2005. Update on the environmental and economic costs associated with alien-invasive species in the United States. *Ecological Economics* 52: 273–288.

Plumptre, A.J., Masozera, M. and Vedder, A. 2001. *The impact of civil war on the conservation of protected areas in Rwanda/L'impact de la guerre civile sur les aires protégées en Rwanda*. Biodiversity Support Program, Washington, DC, USA. Available at www.bsponline.org [October 2006].

Ponce, C. and Alcalde, M. 2003. The Condor Corridor. *Tropical Forest Update* 13: 13–14.

Sandwith, T.S., Shine, C., Hamilton, L.S. and Sheppard, D.A. 2001. *Transboundary protected areas for peace and co-operation*. IUCN, Gland, Switzerland and Cambridge, UK. Available at www.iucn.org/themes/wcpa/pubs/guidelines.htm #transboundary [October 2006].

Santiapillai, C. and Wijeyamohan, S. 2003. The impact of civil war on wildlife in Sri Lanka. *Current Science* 84: 1182–1183.

Scovazzi, T. 2004. Marine protected areas on the high seas: some legal and policy considerations. *International Journal of Marine and Coastal Law* 19: 1–17.

Shambaugh, J., Oglethorpe, J. and Ham, R. (with contributions from Tognetti, S.) 2001. *The trampled grass: mitigating the impacts of armed conflict on the environment/ L'herbe foulée: atténuer l'impact des conflits armés sur l'environnement.* Biodiversity Support Program, Washington, DC, USA. Available at www.bsponline.org [October 2006].

Squire, C.B. 2001. *Sierra Leone's biodiversity and the civil war.* Biodiversity Support Program, Washington, DC, USA. Available at www.bsponline.org [October 2006].

Tallone, G. 2003. Siachen Peace Park: a case study for the valorisation of high mountain ecosystems. Unpublished presentation during the 5th World Parks Congress, Durban, South Africa, September 2003. Available from evk2cnr@mountnet.net [October 2006].

Transboundary Protected Areas Task Force IUCN/WCPA Specialist Meeting, Archipelago de La Maddelena, Sardinia, 17–22 May, 2004. Unpublished meeting notes.

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

Vanzella-Khouri, A. 1998. Implementation of the protocol concerning specially protected areas and wildlife (SPAW) in the wider Caribbean region. *The University of Miami Inter-American Law Review* 30: 53–83.

Yonzon, P. 2004. Threats to Nepal's protected areas. *Parks* 14: 35–39.

Zbicz, D. 2001. Global list of internationally adjoining protected areas. In: Sandwith, T.S., Shine, C., Hamilton, L.S. and Sheppard, D.A. *Transboundary protected areas for peace and co-operation.* IUCN, Gland, Switzerland and Cambridge, UK.

Appendix 3

List of contributors to the workshops held in southern and eastern Africa

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Modise, Sedia
Thakadu, Tsompi
Theophilus, Isaac
Sebotho, Dimpho

Kenya
Achoki, Josiah
Bagine, Richard
Chemnjor, Tom
Josphat, Yakhama
Kagiri, Joachim
Kisioh, Humphrey
Manegene, Stephen
Masela, Paul
Muhanga, John
Nkako, Francis Ole
Owiti, George
Parsimei, Lenjirr
Wasike, Boniface

Lesotho
Damane, Stanley
Mabongani, Adoro
Maloi, Mabatlokoa
Mokuku, Chaba
Mosenye, Mapolesa
Mota, Nkareng
Pomela, Motebang

Malawi
Jamusama, Haxwell
Kumchedwa, Brighton
Manda, Chizamsoka
Mbota, Clement

Mozambique
Chande, Baldeu
Chume, Aurelio
Comoane, Ana
Cumbo, Amancio
Diogo, Vitoria
Gilberto, Vincente
Madeira, Pinto
Madope, Afonse
Sandramo, Matias
Tomas, Paulo Julias

Namibia
Boois, Ulrich
Demas, Fanuel
Kolberg, Holger
Lane, Patrick

Rwanda
Bizimungu, Francois
Ngoga, Telesphore
Rurangirwa, Justin

South Africa
Biggs, Harry
Blackmore, Andy
Blok, Robert
Braack, Leo
De Beer, Elna
Dube, Nokuthula
Fakir, Saliem
Gcabashe, Busi
Gcumisa, Mlindeli
Goodman, Peter
Hall-Martin, Anthony
Hanks, John
Hlela, Henry
Khoza, Bhekisisa
Kress, Anne
Lesley, Bruce
Loock, Louis
Mabunda, David
Malefane, Kgwedi
Maluleke, Lamson
Maluleke, Livingstone
Matolong, Tebogo
Mbanjwa, Dominic
McKean, Steve
Mokoena, Property
Monaledi, Delsey
Mushasha, Lyborn
Myburgh, Werner
Ndlovu, Eliakim
Ndlovu, Yoliswa
Ngcobo, Mbali
Ngwenya, Reuben
Nkathini, Ntlawini
Nsuntsha, Aubrey
Peddle, David
Pienaar, Andries
Porter, Roger
Potter, Derek
Rogers, Peter
Sandwith, Trevor
Slater-Jones, Sandy
Steenkamp, Conrad
Steyn, Louw
Taljaard, Johan
Tiba, Delani
Van der Walt, Peet
Van Riet, Willem
Verhoef, Johan
Wentzel, Kobus
Zunckel, Kevan

Swaziland
Dlamini, Wisdom
Gama, Ray
Kunene, James Mandla
Mtsambiwa, Morris

Tanzania
Andulege, Benjamin
Baldus, Rolf
Bigurube, Gerald
Chambegga, Omoury
Chengulla, Enock
Chuwa, Joseph
Erastus, Lufungulo
Fissoo, Paul
Gamassa, Deo-Gratias
Gereta, Emmanuel
Kijika, Benjamin
Kipkore, Kapyas
Kitwara, Omari
Kusamba, Retanus
Lauren, Persha
Lema, Mathias
Lerise, Fred
Lusassi, Salim
Makwetta, Atwitye
Masunzu, Charles
Mdoe, Charles
Moirana, Lorivi
Mwakilema, William
Mwanauta, Abdallah
Mwombeki, Frederick
Salehe, John
Swai, Issai

Uganda
Amooti, Nsita
Bohanga, Edgar
Manyindo, Jacob
Masereka, Johnson
Ocen, Mark
Ogenga, Okonya
Oryema, Chris
Tugume, Sam
Twinomugisha, Bernard
Wakhanyinywi, Pascal

Zambia
Kayeyi, Harrison
Longwe, Isaac
Nyirenda, Vincent
Tembo, Nasson

Zimbabwe
Chidziya, Edson
Choga, Thomas
Jonga, Charles
Manyonganise, Ebbias
Mbedzi, Albert
Ruswa, Stanley

Outside Africa
Besancon, Charles
Petermann, Thomas
Stein, Roland
Van Omerom, Marloes
Young, Tomme
Zindler, Harald