

# **Managing Conflicts in Protected Areas**

## IUCN BIOLOGICAL DIVERSITY PROGRAMME

The IUCN Biological Diversity Programme (BDP) focuses on biodiversity issues at the global level and facilitating actions taken at regional and national levels. It supports the IUCN mission by promoting the development of policies, technical capacities and economic tools to influence, encourage and assist societies to use biological resources in a sustainable manner which does not reduce the overall diversity of the biological systems involved. Its objectives are: **to assist** countries in preparing and implementing national planning efforts and carrying out activities in support of biodiversity conservation and sustainable use; **to integrate biodiversity** considerations into public and private sectoral plans and activities, for key sectors relevant to biodiversity conservation and sustainable use, such as agriculture, forestry, fisheries and tourism; **to facilitate and influence key global processes** relevant to biodiversity, including the Convention on Biological Diversity and other global instruments that have impacts on biodiversity; **to broaden the constituency** for conserving biodiversity, using biological resources sustainably, and equitably sharing the benefits arising from such use; and **to further develop and expand understanding** and information on biodiversity. BDP also serves as the secretariat for the **Global Biodiversity Forum**.

## IUCN PROGRAMME ON PROTECTED AREAS

The IUCN Programme on Protected Areas (PPA) supports the work of the IUCN Commission on National Parks and Protected Areas (CNPPA). It has the same mission as CNPPA, which is "To promote the establishment and effective management of a world wide, representative network of terrestrial and marine protected areas". It seeks to implement this mission through four strategic objectives: **To help governments and others plan protected areas and integrate them into all sectors**, by provision of strategic advice to policy makers; **To strengthen capacity and effectiveness of protected area managers**, through provision of guidance, tools, and information; **To increase investment in protected areas**, by persuading public and corporate donors, as well as governments, of their value; and **To enhance CNPPA's capacity to implement its programme**; including co-operation with IUCN members and partners. In addition to these shared objectives, the PPA aims to link: The varied IUCN protected areas field project activities into a cohesive and co-ordinated IUCN protected areas programme; and the protected areas activities of CNPPA and IUCN with key partners (e.g. donors).

## IUCN SOCIAL POLICY GROUP

Caring for the Earth, the IUCN basic policy statement, recognizes that people are most likely to care for natural resources when they are enabled to assess their own initiatives, maintain a sound degree of control over the natural resources and "development" process and when, by protecting the environment, they also manage to satisfy their needs. Promoting the social conditions for this to happen, in full cooperation with the IUCN membership and constituency at large, is the central task of the Social Policy Group. To this end, the Group works to strengthen the capacity to incorporate social concerns in conservation among IUCN membership and staff, and to promote policies and conditions that foster the full participation of various social actors in environmental conservation. One approach with great potential for achieving peoples' participation in the conservation and sustainable and equitable use of natural resources is collaborative management (CM). CM regimes can provide effective means to deal with complex interests and relationships and can promote the participation of groups and communities which are frequently marginalized in conventional resource management and development processes. The capacity to manage and resolve conflicts is essential for this to happen.

**IUCN Biodiversity Programme  
IUCN Programme on Protected Areas  
IUCN Social Policy Group**

# **Managing Conflicts in Protected Areas**

Written and edited by

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# FOREWORD

Protected areas have long been the most effective and widespread measure for conserving nature and natural resources. Well over five percent of our planet's land surface has been allocated for conservation purposes, in virtually all countries. These areas are important tourist attractions, protect watersheds, help define national identity, and conserve biological diversity. Our societies would be much poorer if protected areas had not been established.

But protected areas are based on a myth. A charming myth, but still a myth: that nature is separate from people, and that nature is diminished whenever people try to live among it. But over the past decade or so, work carried out by scientists from a wide variety of fields ranging from anthropology to history to archaeology to ecology and economics - have led to a much more sophisticated understanding about the relationship between people and the rest of nature.

It is now generally accepted that humans have had a profound influence on virtually all of our planet's ecosystems. These range from indirect influences, such as the accumulation of DDT in the fatty tissues of penguins in Antarctica, to very direct influences, such as the use of fire in forests and grasslands. It follows that if most of the earth's ecosystems are the way they are today because of past human activity, then protected areas established to preserve a certain status quo will usually require active management, which is yet another kind of human intervention.

Another insight that the new appreciation of the role of humans has provided is that virtually no part of the habitable surface of our planet has been without resident people, even though the areas may appear to be "empty". Given that the world's governments have accepted protected areas as an important conservation measure, and that such areas now cover well over 5 percent of the earth's land, and that many governments have exceeded 10 percent of the land in such protected status, what does this mean for the people who live in such areas or consider them as part of their ancestral lands? What about the people who are economically dependent on the resources that have now been "locked away" inside areas given legal protection by central governments? These questions form the basis of the conflict between local people and protected areas.

In many parts of the world, new approaches - often termed "co-management" - are being adopted as a way of helping to resolve conflicts between local people and protected areas. Another element of this conflict is over the distribution of costs and benefits of conservation. Many

protected areas appear to provide most benefits to the nation at large, which is why they are called "national parks" or "national nature reserves", or even for the entire planet, which is why some areas are given World Heritage status. Many such protected areas are a net cost to the people who live in and around them, either in terms of decreased access to resources, crop damage from wild animals, or the opportunity cost of using that habitat for another purpose. Thus the issue of distribution of costs and benefits is a critical one in helping to resolve conflicts in protected areas.

All of these factors help to explain why many protected area managers are spending increasing amounts of their time in managing conflicts. *Managing Conflicts in Protected Areas* arose from a workshop at the IV World Congress on National Parks and Protected Areas, held in Caracas, Venezuela in 1992, and benefited from several years of additional work from Connie Lewis. It is designed to give protected area managers a practical tool, with real-life illustrations, on how they can become more effective managers and how they can learn to resolve the kinds of conflicts that are inevitable when different groups of people have different ideas about how areas of land should be managed.

IUCN was very pleased to work with the Keystone Center in preparing this publication, which we very much hope will find wide application in many parts of the world. We also hope that additional experience will help to flesh out certain parts of this handbook and make subsequent editions even more relevant to the evolving needs of protected area managers in times of increasing demands, shrinking budgets, economic globalization, and greater responsibilities to local communities.

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# Chapter 1

## Introduction

### Handbook Overview

The Handbook was written for staff of protected areas around the world (including parks, wilderness areas, research areas, and other types of protected landscapes) who encounter conflicts of all kinds. The Handbook can also be a resource for other interested parties who want to play a constructive role in protected area conflicts. A simple framework is offered and some strategies for responding to different types of conflicts in protected areas are explored. The bibliography in Appendix A provides a list of additional resources to supplement the information contained in the pages that follow.

Protected area staff are likely to find themselves occupying a variety of roles in conflicts that affect their protected areas: they may be mediators, negotiators, convenors, experts, advocates, or decisionmakers. Often they will find themselves in more than one of these roles at once. Regardless of the roles protected area staff occupy at any particular time, they can be critical players in conflicts and may be in a position to help find a resolution. It is hoped that the Handbook will be a valuable resource to those faced with conflict in their protected areas.

The case studies, which are the heart of the Handbook, describe a variety of both short and long term approaches for dealing with conflict. The case study descriptions are abbreviated versions of more complete analyses which were prepared (with a few exceptions) for the Fourth World Parks Congress in Caracas, Venezuela in February 1992. They were edited/written by the Handbook author, and she assumes full responsibility for any mistakes or omissions. Not all of these cases have successful outcomes, but the assumption is that unsuccessful cases can sometimes be as instructive as ones that result in success.

In almost all of the case studies, the conflicts relate to: 1) a lack of attention to the process of involving local people and others who care about the protected area in the planning, management, and decisionmaking for the area, and/or 2) people in nearby communities having needs (e.g., for grazing land, firewood, building materials, fodder, medicinal plants, and hunting) that conflict with the objectives of the protected area. The conflict resolution strategies described in the Handbook describe ways to

involve local people in decisionmaking processes and to develop solutions that respond to local people's needs.

Each of these case studies is still evolving and more is being learned all the time about the long term results of these approaches. The case study contacts can be reached at the addresses provided for more detailed information about their efforts and current developments.

This Handbook is a living document. It is hoped that readers will make suggestions for improving it. Comments can be sent to IUCN - The World Conservation Union or directly to the author c/o The Keystone Center, P.O. Box 8606, Keystone, Colorado, USA. (Phone: 970-468-5822, Fax: 970-262-0152, E-Mail: [connielewis@keystone.org](mailto:connielewis@keystone.org).)

## **Conflict Resolution Overview**

Protected areas are refuges of tranquillity and peace, yet they are also places where conflict occurs. In a world in which the bio-physical environment and socio-cultural systems are changing rapidly, conflicts involving protected areas are inevitable.

It is important to emphasize that conflict is not necessarily bad. Conflict can represent the productive interaction of competing interests and values, an ever-present function in a dynamic society. Conflicts that are properly addressed can be opportunities for problems to be identified and solved, and progress achieved. Many conflicts, however, can become counterproductive and destructive, leading to detrimental results and hostile relationships. Protected area staff face the challenge of trying to respond to conflicts so that unproductive consequences can be avoided while human well being and the natural environment are protected.

Conflicts can be resolved in a variety of ways. One side may defeat the other side through armed combat. Or a formal legal or institutional mechanism (such as a court proceeding or legislative action) may be utilized to resolve the conflict. The conflict resolution framework described in this Handbook is oriented toward informal, voluntary, collaborative approaches that can be used either to supplement formal mechanisms or as stand-alone processes. The assumption behind the framework is that a good conflict resolution process is one in which stakeholders (those individuals or groups who are directly involved in the conflict, or who may be affected by how the conflict is resolved) have the opportunity to really understand each other's needs, develop a range of alternatives for how to address those needs, and reach a mutually agreeable solution. The emphasis is on communication. Another way to think about this kind of conflict resolution approach is as joint problem solving or decision-making when there is disagreement, something we all do every

day, with our families, friends, and co-workers. Many of the same common-sense approaches we use in those settings can be applied to protected area conflicts.

## Key Principles

All conflicts occur, and must be addressed, within a particular cultural, political, and social context. Any conflict management approach must be appropriate for the context in which it happens and must take local conflict resolution customs and institutions into account. Nevertheless, there are three general principles that should be applicable to the majority of protected area conflicts.

### Principle One - Focus on Underlying Interests

A major challenge in resolving conflicts is to address the underlying interests that are really at stake rather than getting stuck arguing over positions. The term "interests" is used throughout this Handbook to mean people's fundamental needs and concerns. The term "positions" is used to mean the proposals that people put forward to try to satisfy their interests. The difference between interests and positions, can be illustrated by this example.

Animals from a protected area are trampling and eating crops in gardens belonging to people who live near the area. The *interests* of those local people are to protect their lives and livelihoods. The *positions* that could serve their interests might include: 1) shooting animals that enter their gardens, 2) using electric fences to keep the animals out of the gardens, 3) relocating the people to some other place which is not subject to wildlife depredation, 4) eliminating the gardens and providing the people with food from some other source, or 5) compensating the people for the losses from the gardens.

Obviously, some of these solutions are more desirable and feasible than others. The point is that there are probably a variety of positions that might serve the same interest. Too often, however, individuals involved in a conflict decide on a single position and then spend all their time and energy defending that position instead of trying to understand the interests at stake and identifying and exploring a variety of positions that might satisfy those interests. Usually only by examining a variety of possible positions can parties in conflict come up with a mutually agreeable resolution to the conflict (or at least a resolution that represents a fair compromise).

A conflict management effort in which **all** interests are satisfied (i.e., a mutually agreeable or "win-win" outcome) is much more likely to result in

a lasting and satisfactory resolution than one in which the interests of only one side are addressed (i.e., a "win-lose" outcome). A win-win solution indicates that all parties believe they have gained something. The reason conflict participants do not always strive for a mutually agreeable outcome, of course, is that to do so often involves some amount of compromise. Unfortunately, therein lies the root of what so often makes conflict destructive and enduring.

Nevertheless, compromise is often the best way to serve everyone's interests in the long run, especially when overt conflict is replaced with the stability and predictability of a mutually acceptable solution. For example, in the context of protected area management, allowing some use of an area's resources may ultimately serve a protected area's interests better than keeping the area in strict reserve status, and could serve interests of adjacent communities as well. The alternative (perhaps uncontrolled poaching or outright warfare) could be worse.

### **Principle Two - Involve all Significantly Affected Stakeholders in a Fair and Respectful Process**

To resolve conflicts, there has to be an effort to involve all significantly affected stakeholders. Stakeholders are those individuals or groups who are directly involved in the conflict, or who may be affected by how the conflict is resolved. People want to be involved in decisions when their interests are at stake, they want to have their opinions and ideas heard and valued, and they want to be respected as individuals.

Lack of affected stakeholders inclusion in the establishment and design of a protected area and in decisions affecting the management of the area after it has been established are major sources of conflict. If affected groups are not included, their interests and concerns can not be known or considered. Therefore, the protected area manager may create or exacerbate conflict out of ignorance about how his/her decisions may adversely affect others. If significantly affected stakeholders are excluded from attempts to address the conflict, they are likely to remain disgruntled over time, because they believe their interests are ignored and because they have no ownership in the outcome. Whereas, if their interests are explicitly considered in the process, they will be more inclined to support a proposed solution to the conflict. Inclusion also gives people a sense of ownership, which is a precursor to stewardship.

### **Principle Three - Understand the Power That Various Stakeholders Have, and Take That Into Account When Trying to Resolve a Conflict.**

Power is a critical element in conflict resolution. Each stakeholder's decisions about how they approach the conflict will depend to a large

extent on their view of the power they have and the power balance among the various stakeholders. For example, a group that feels powerless to influence an outcome through a bureaucratic decisionmaking process may choose to use illegal activity or armed force instead.

Some power is real, some is perceived (it does not really exist, but someone thinks it does). The protected area manager who is involved in a conflict resolution process needs to understand the relative power (both perceived and real) of the stakeholders involved in the conflict.

There are many different kinds of power, including:

- power of position (having authority, being in a position to make or influence decisions);
- power of knowledge (having information);
- personal power (being personally forceful/persuasive);
- economic power (having financial resources);
- political power (having a supportive constituency or access to political leadership);
- legal power (having a "good" legal case, expert legal council, or access to courts);
- coercive physical power (having police or military backing, or weaponry);
- family power (being from a well connected family); and
- group power (being a member of an ethnic, religious, or other type of group that has power or, for example, being male in a male dominated society).

There are often extreme differences in power between different stakeholders. In attempting to resolve a protected area conflict it is especially important to involve both those with substantial power (especially those with the ability to thwart the implementation of a proposed resolution to the conflict) and those who are the least powerful.





# Chapter 2

## A Framework for Resolving Conflicts

Given the difficulty, complexity, and variety of conflict situations that occur in protected areas, each situation will require a specifically tailored response that recognizes and adjusts for the cultural, legal, and social context of that protected area and for the particular dynamics of the conflict. In this chapter, a structured framework to address conflicts in protected areas is proposed. In addition, a few strategies designed to address specific issues that can arise are described. In applying the framework, the principles outlined above need to be considered throughout the process.

As one examines the framework, it is important to understand that the components of the conflict resolution framework are not necessarily steps that occur one right after another. They often overlap and some components may need to be repeated as the process evolves. Also, the approaches utilized in one component of the framework may be the same approaches used in other components. For example, an advisory group may be an effective assessment approach, an approach for involving affected stakeholders, and a solution in itself.

The framework may include both short- and long- term time horizons. In a difficult conflict, it may be necessary in the short term to simply bring the situation under control (to manage the conflict) and to start building trust among stakeholders while planning in the long term to address the real issues that are at stake (to resolve the conflict).

The components of the conflict resolution framework are:

1. **Getting Started/Determining Roles** - Getting the conflict resolution process going.
2. **Assessment** - A structured attempt to assess the nature of the conflict, determine who is involved, and obtain other information that would be useful in designing an effective conflict resolution process.
3. **Involving Affected Stakeholders** - The communication/negotiation phase in which an attempt is made to find a resolution that addresses the interests of the stakeholders.

4. **Implementation and Evaluation** - Solutions are implemented and evaluated. Then, very often, the process repeats itself as more issues are identified, and more conflict occurs.

It is no coincidence that this framework has features common to many planning and public involvement processes (e.g., environmental impact assessment). Conflict resolution and good public involvement can be viewed as different sides of the same coin or points on the same spectrum. If a good public involvement process is incorporated into the establishment and management of a protected area, many conflicts may be avoided.

## **Getting Started/Determining Roles**

For a conflict resolution process to be initiated, someone needs to decide that the problem has gotten bad enough to want to do something about it. Then, a determination of how to get a conflict resolution process underway needs to take place. This necessarily involves an initial assessment of the situation to determine what role various stakeholders might play and the best next steps.

There are a number of possible roles for protected area staff. Usually the protected area staff will find themselves in more than one of these roles at once. Roles in a conflict situation can include:

- **advocate** - represents and advocates for a particular interest (may or may not be a negotiator in a conflict resolution process);
- **arbitrator** - makes a decision for the stakeholders at the request of the stakeholders;
- **convener** - initiates and designs a conflict resolution process; brings stakeholders together;
- **expert** - provides information that may be helpful in resolving the conflict;
- **decision-maker** - has decisionmaking authority; usually associated with an official, governmental position;
- **mediator** - serves as a neutral party to assist stakeholders in finding a resolution to the conflict;
- **negotiator** - participates as a representative of a particular interest in discussions with other stakeholders to resolve the conflict;

- **stakeholder** - those individuals or groups who are directly involved in the conflict, or who may be affected by how the conflict is resolved.

Conflict involves the protected area, then it can be assumed that the protected area managers are stakeholders. They are also decisionmakers, because they make decisions about park management. Whether park staff can or should try to fulfil any of the other roles will depend on how much credibility they have with other stakeholders, what sort of mandate they have, and how much power they have relative to other stakeholders. Having credibility, a mandate, and power are all reasons for protected area staff to assume that they may be in a position to initiate a process, to serve as convener. An alternative is to ask some other individual or group to initiate a process, perhaps a respected person or a non-governmental organization (NGO). Regardless of whether it is the protected area or another group that is trying to get a process going, the next logical step is to conduct a more complete assessment of the situation.

## **Assessment**

The conflict assessment is the systematic collection of information to be used in designing a conflict resolution process. Assessment is usually on-going throughout any conflict resolution effort because the initial assessment almost always reveals the need for additional information which needs to be acquired as the conflict resolution effort proceeds.

The first step in designing a conflict assessment is to decide what information to collect. The questions most commonly asked in a conflict assessment are:

- What are the issues at stake in the conflict?
- Who are the significantly affected stakeholders (either individuals or groups)? For each stakeholder group (including the protected area):
- Who are their leaders/spokespeople?
- What are their underlying interests? What do they want and need?
- What positions have they adopted? What are they asking for to try to get their needs met?
- What other positions might serve their interests?
- How much and what kind of power do they have? How might their power affect the conflict resolution strategy?

- What are their incentives and disincentives to resolve the conflict?
- What are the relationships between the stakeholders? How well do they communicate with one another? How much trust is there between the stakeholder groups? Is there a need for some sort of neutral mediator to help resolve the conflict?
- What is known/unknown about the scientific and technical aspects of the conflict? How much information do the various stakeholders have? What additional information needs to be collected and/or disseminated to help all stakeholders participate effectively and to arrive at a good solution?
- What is the institutional/legal context for the conflict and what institutional/legal avenues are there for resolving it? Is there an existing forum for resolving the conflict (one that includes all stakeholder groups)? If not, what kind of forum(s) would be most useful?
- What resources are available to deal with the conflict (financial/human/institutional)?

Once a list of questions has been developed, the next step is to choose a methodology for collecting the information. The methodology may be as simple as writing down, in an organized fashion, what is already known about the conflict. It may also involve consultation with knowledgeable colleagues, interviews with stakeholders, questionnaires, environmental and social impact assessments, public hearings, roundtables, and advisory groups. Many of these options are described in the case studies in Chapter 4.

## **Involving Affected Stakeholders**

The third component of the conflict resolution framework is to involve affected stakeholders in the search for a solution to the conflict. This is the problem solving and/or negotiation phase of conflict resolution. Someone or some group (the convener - probably the same entity that has conducted the assessment) needs to design and initiate the effort. The design of a process to involve affected stakeholders will be based on the assessment described above. It should be developed with local customs and institutions in mind. If possible, it should build on existing communication channels. As has already been mentioned, the intent should be to include all significantly affected stakeholders in a fair, credible, equitable, and respectful process that leads to an outcome in which everyone's interests are considered.

Stakeholder involvement can occur along a spectrum from minimal to very intensive involvement. At the minimal end of the spectrum, stakeholders have opportunities to provide some input to decisionmakers about what they think about the protected area, what they want from it, what their concerns are, and how the conflict should be resolved. Approaches for getting stakeholder input include communicating with stakeholders one at a time (e.g., through interviews, questionnaires), or in small groups (e.g., through meetings or "open houses" - an example of an open house would be a forum in which stakeholders are invited to stop by informally to chat with protected area managers about the conflict). Many of these approaches are the same ones that are likely to be used in the assessment.

At the intensive end of the spectrum, stakeholders are actually involved in negotiation with the decisionmakers to develop alternative solutions and to try to agree on a resolution to the conflict. Approaches for intensive stakeholders involvement include: consensus-building forums, advisory groups, task forces, and management committees.

In any case, the authority to make the final decision about how to resolve the conflict usually remains with the protected area management (or other official body). Of course, asking stakeholders what they want, carries with it some responsibility to try to do something with the answers.

Mediation or other third party assistance may be helpful in the involvement process, but is certainly not advised in every situation. Mediation can be used early in a conflict resolution effort, to help get the process underway, throughout the process, or only as a last resort when all else has failed. It should be considered especially when:

- the conflict is particularly adversarial;
- the situation is extremely complex;
- there is a great deal of mistrust among the stakeholders; or
- communications between stakeholders have broken down.

Many societies have a tradition of mediation. The way mediation is practiced, the role of the mediator, and who serves as mediator varies a great deal. Mediators can organize and chair meetings; help enforce groundrules; talk to stakeholders individually; suggest solutions that are responsive to everyone's interests; serve as a sounding board to the various stakeholder groups and advise them on their negotiation strategies; and serve as a buffer between the stakeholders (e.g., by taking the combative tone out of what is communicated between them).

It is important to choose a mediator who can be trusted by all sides. This almost always means selecting someone who is neutral, who does not themselves, him or herself have a stake in the conflict, and can understand the various interests. It might be a village elder, religious figure, or someone from an institution or NGO.

The choice of what stakeholder involvement approaches to use, and whether to use mediation, depends on the intensity of the conflict, number of stakeholders, skills and expertise of the convener(s), resources available, whether appropriate representatives can be identified for groups of stakeholders, the level of animosity that exists between groups, the kind of information the convener(s) already have about the situation and about each other, and the stakeholders' level of sophistication and experience with participatory processes. The conflict assessment should help guide the selection of approaches to use.

In many situations, especially when large numbers of stakeholders are involved, it may be necessary to utilize several different approaches to involve stakeholders. There are numerous variations on how these different approaches can be structured and applied, and a number of issues/problems that are likely to arise. Some of the issues and strategies for addressing them are described below. The case studies in Chapter 4 provide an array of interesting and illustrative examples of how different approaches and strategies have actually been applied. See the table at the beginning of Chapter 4 for an explanation of which cases describe which approaches and issues.

## **Dealing With Large Numbers of Stakeholders**

One characteristic of many protected area conflicts is that they involve a large number of stakeholders, each with their own needs, perspectives, values, and goals. The stakeholders may include people who live within the protected area, such as indigenous groups with long standing claims to use the land. They may also include people around the world whose interest is in the conservation values of the park, such as tourists, hunters, and local, national, or international NGOs who value the protected area for its flora, fauna, scenery, and wilderness characteristics. Many of these people may never see the area but enjoy it remotely through photos, books, television, and other media. Then, there are the stakeholders who live in nearby communities. They too may have a tradition of using resources within the protected area. There are also local, regional, and national government entities who may benefit or suffer from the existence and management of the protected area. In some cases, the protected area's stakeholders may include warring factions who use the area as a refuge or hiding place. Both the variety and number of stakeholders and the interplay among local, national, and international interests present challenges to anyone attempting to understand, manage, or resolve these conflicts.

Strategies:

1. When a large numbers of stakeholders exist, do as thorough a job as possible during the assessment phase identifying **the type of groups** who have a stake in the conflict and who they might respect as a spokesperson/representative. The people who are most important to involve are **those who have the ability to thwart a proposed solution** to the conflict. Also do not forget to identify and try to reach out to those affected **groups which may lack power and have been excluded in the past**.
2. Design a conflict resolution process that gives as many stakeholders as possible a chance to express their concerns and needs, even if they can not all be at the table to negotiate a solution to the conflict. This can occur in open houses, questionnaires, interviews, and/or community meetings.
3. In situations where a negotiation process seems appropriate, but when it is not possible to involve all the stakeholders directly in the process, consider working with representatives of the various stakeholder groups. Deciding who should represent groups of stakeholders is one of the trickier aspects of conflict resolution process design. Ideally the stakeholders themselves should determine their representatives. When this is not possible, representatives who will be credible to the stakeholders, who can honestly do a good job representing their interests, and who can function well in a collaborative, problem-solving setting should be selected for each stakeholder group.

## **Building Trust**

When a conflict situation is especially adversarial, it is important to start with trust- and confidence-building measures. Some level of trust is necessary for stakeholders to be able to agree to a solution, rather than just fighting over positions.

Strategies:

1. Build personal relationships. The Sierra Nevada case (case study 10) suggests that interacting with stakeholders at a personal level can be an effective way to let people know that their interests are being heard and understood. The case describes how one individual, who does monumental work in this particularly trying situation, has made an impressive effort to know everyone around the protected area personally. His ability and willingness to invest the time to develop individual relationships with people of all points of view may be one of the keys to his accomplishments. It may be difficult of course to know or include everyone who has an interest in a protected area. An

alternative to trying to reach every single person is to rely to a large extent on community leaders. The Sierra Nevada and Sagarmatha cases both offer examples of how this can be accomplished by building relationships and trust with elders and religious figures who have authority and credibility in the community.

2. Establish process groundrules that are likely to create trust among the stakeholders. In meetings designed for gathering input from stakeholders, these can include:

- asking everyone to be respectful of the other people in the meetings, to assume that everyone's interests are valid and worth listening to; and
- promising that everyone's input will be considered.

In a negotiation process, ask participants to:

- assume that they can leave the process, but only after agreeing to explain their problem(s) to the whole group and seeing if the problem(s) can be addressed by the group;
- give the same priority to solving the problems of others in the group as you give to solving your own;
- try to craft a package of solutions that addresses everyone's interests, while recognizing that each stakeholder may not agree with all aspects of the package. In other words, participants may be asked to live with the total package, assuming that it is balanced and addresses some of the interests of each group;
- be mindful of the impacts of their public and private statements on the climate for the process;
- refrain from making statements to the news media during the conflict resolution process, or, alternatively, agree to use a spokesperson(s) to make those statements; and
- agree to advocate for any agreed upon resolution to the conflict.

3. Start with small issues that are easily settled. This works when there are a number of different issues at stake in the conflict, and when some of them are easier to resolve than others. By tackling, and resolving, some of the easier issues early in the process, stakeholders may begin to develop a sense of trust in the process and in each other.



4. Take a unilateral action that inspires trust in other stakeholders. An example of this strategy might be for the protected area to enact some new policy that other stakeholders would favour.
5. Stand by agreements that are made. There is nothing like a broken promise to make other stakeholders lose trust. The Shimshali situation (Case Study 7) is one in which conflict was exacerbated when promises were made but then broken.

## **Dealing With Important Stakeholders Who Do Not Want to Participate in the Conflict Resolution Process**

While it may be very frustrating for the convenor of a conflict resolution process to be faced with stakeholders who do not want to participate in the process, it is critical to remember that those stakeholders probably have a very good, logical reason for feeling as they do. They have probably decided that their best alternative lies outside the process; that they are more likely to serve their interests by continuing illegal activity, advocating for their positions in the press, pursuing a legal case, or some other alternative, rather than participating in a conflict resolution process.

Strategies:

1. Evaluate why they do not want to participate. Take an especially hard look at their incentives and disincentives to participate. See if there may be a way to minimize the disincentives and strengthen the incentives.
2. Apply the trust building strategies described above.
3. Proceed without them but leave the door open for their participation. Keep lines of communication open and continue to invite them into the conflict resolution process.
4. If it is a very powerful group that does not want to participate, one that can thwart any proposed solution to the conflict, it may be necessary to reevaluate whether it is worth proceeding with the conflict resolution effort. It may not be.

## **Involving Less Powerful Stakeholders**

It may be difficult to include groups that have little power, although their interests are valid and important. The lack of power may derive from being illiterate, uninformed, poor, part of a group that is typically not listened to (e.g., women), unable to speak the same language as other stakeholders, or, for some other reason, being politically disenfranchised.

It will take considerable cultural and social awareness to respond to this issue effectively.

Strategies:

1. Do not assume that the involvement approaches that work for other groups will work for less powerful groups. Consider setting up different mechanisms for reaching these people. For example, women may not be able to speak out on issues when village leaders are present, but might be able to express their interests in other fora.
2. Provide resources to help less powerful groups participate more effectively. This could include financial assistance to get to meetings, legal advice, negotiation training, the use of interpreters, or access to technology or information.

### **Keeping the Focus on Interests Rather Than Positions**

As has already been emphasized, a focus on interests rather than positions is key to the success of most conflict resolution efforts. However, it can be difficult to get stakeholders to comply.

Strategies:

1. Explain the difference between interests and positions at the beginning of the process, and ask the negotiators in the process to try to focus on interests. Ask them to propose solutions to the conflict that are responsive to ALL of the stakeholders' interests, and not just their own.
2. Start by focusing on goals. Talking about goals can often get people thinking about their fundamental interests and can be a good way to launch a conflict resolution effort. People with very different perspectives can often agree to general goal statements. Some examples of goals might be to: "protect the resources of the protected area into perpetuity so that they can be used to benefit future as well as current generations," and "ensure that the people of this area have decent livelihoods."
3. When a position rather than an interest is offered, ask "why do you want to do that?" Digging deeper into the "whys," like peeling an onion, may help lead closer to the heart.

### **Reaching a Satisfactory Resolution**

Even when all the previous strategies have been tried, it can be very difficult to find a satisfactory resolution to a protected area conflict. For

example, it may appear to the protected area staff that the only way to resolve the conflict would be to sacrifice the natural resources of the protected area.

Strategies:

1. Try to craft a resolution that meets **some** of the needs of each of the stakeholder groups, and that seems to represent a fair balance among competing interests.
2. The protected area staff may have to make a unilateral decision, the best possible to address the conflict, taking everyone(s) interests into account. The conflict may then continue, but perhaps a future conflict resolution opportunity will arise.
3. When the conflict is related to major, long term issues like poverty and overpopulation, do what can be done in the short term to manage the conflict, build trust, address small issues, and take steps over the long term to address the big issues. In the short term it may also be necessary to build up enforcement capacity or to utilize other means to protect the protected area.

## **Dealing With Factors Outside the Protected Area**

Many of the factors that give rise to and affect the management and resolution of protected area conflicts are located outside protected area boundaries and are largely beyond the control of protected area staff. These factors include institutional, legal, political, and economic influences (e.g., changes in political leadership, new international protocols, and economic problems), and environmental impacts from outside the protected area that degrade the protected area environment (e.g., as air/water pollution and water scarcity). Consequently, managers must often broaden their horizons far beyond the protected area to effectively respond to conflicts endangering their areas, and yet may not have the mandate to act outside the protected area boundary.

Strategies:

1. Look for partners (e.g., NGOs or other institutions) outside the protected area who may be able to help.
2. Try to open lines of communication and build positive relationships with the relevant government entities.

## **Incomplete or Contradictory Information**

Protected area conflicts are often complicated by scientific uncertainty and tension between scientific and traditional/anecdotal/local knowledge. Lack of information about impacts of activities on protected area resources may make it more difficult to identify the full range of alternative solutions to the conflict. The need to develop solutions to conflicts in the face of missing or contradictory data is often one of the most frustrating aspects of conflict resolution in protected areas. Situations often demand making decisions anyway, and then being willing to modify the decision as better information becomes available in the future.

Strategies:

1. Identify information needs during the assessment, and then try to develop a strategy for obtaining the necessary information. NGOs, research institutions, and the scientific community may be helpful.
2. When there is a debate over apparently contradictory information, consider establishing some sort of process to resolve the debate. This might include the selection of an agreed-upon neutral scientific expert or the establishment of a scientific advisory panel.

## **Dealing With Numerous and/or Competing Administrative Entities and Legal Requirements**

Protected area staff in conflict situations sometimes feel like pawns in a game of chess, pulled and pushed by numerous, sometimes, competing administrative entities. It can be extraordinarily difficult to figure out how to resolve a conflict in the face of having to deal with a morass of local, regional, national, and international agencies, each with its own interests and political agenda. It may be even more challenging in situations where corruption is involved.

Strategies:

1. Use the conflict assessment to help figure out who **the most important agencies and people** are for the situation at hand (those with the power to thwart a proposed resolution to the conflict or those who could be most helpful in finding and implementing a solution). Focus as much energy as possible on those groups and individuals; getting to know them, and trying to influence them in ways that will help resolve the conflict.
2. When corruption is exacerbating the conflict resolution effort, consider bringing public attention to the situation. For obvious reasons, it may be necessary to use the services of an NGO or other group to help with

any publicity effort. Consider seeking the assistance of donors who may have influence over the corrupt officials. Consider contacting groups like the IUCN Commission on Parks for their assistance.

## **Finding the Resources to Pay For Conflict Resolution**

Conflict resolution efforts usually have some costs associated with them. These can include staff time, transportation to meetings, paying for a mediator, renting meeting space, conducting research that could help settle the conflict, copying and mailing documents, and communication expenses (e.g., phone and fax). It may be necessary in a conflict situation to build up enforcement capacity (e.g., additional staff, vehicles, guns, and other supplies). Then of course, there are usually costs for implementing the solutions to the conflict (e.g., paying for mitigation or compensation). There are also the less tangible costs of conflict to the natural resources of the protected area, morale, and other hard to quantify commodities. Covering the costs associated with conflict can be extremely difficult for protected areas that are so often short of funds anyway.

Strategies:

1. When it seems to be in the interest of all sides to find a solution to the conflict, consider asking each of the major stakeholder groups to help in some way with resources.
2. Investigate other funding sources (including NGOs, universities, and international bi- or multi-lateral aid organizations.)
3. Consider establishing a "Friends of the ... Protected Area" organization.

## **Implementation and Evaluation**

This component of the conflict resolution framework involves formalizing, implementing, and then evaluating the solutions to the conflict that stakeholders have agreed to, or that decisionmakers decide on even without stakeholder agreement.

Assuming that some sort of agreement is achieved in the communication/negotiation component of the conflict resolution process, it may be useful to have some sort of document explaining and/or formalizing the settlement that has been reached. Such a document can serve as a bridge to implementation. The settlement documentation can be formal or informal, and will depend on the institutional and legal context in which the conflict has occurred. Examples might include a written memorandum of understanding, a written plan outlining how solutions to the conflict will be implemented, or a new policy.

Difficulties that might arise at this stage in the process include: 1) stakeholders who have agreed verbally to a settlement being unwilling to sign or agree to a written document, 2) stakeholders who were not directly involved in the negotiation opposing the settlement, and 3) not having the cooperation or buy-in of the agencies or people who actually have the authority to finalize and implement the agreement.

Communication is imperative during the implementation phase. Expect problems to arise, and be prepared to work them out with other stakeholders.

Strategies:

1. Do not be surprised by some nervousness on the part of stakeholders when it comes time to "sign on the dotted line." When agreements are outlined in writing they may appear more intimidating, less flexible, and less desirable than when they are only verbal commitments. If possible, build time into the process for stakeholders to familiarize themselves with written settlement documents and to work out any problems they may have with them.
2. The problem of negotiators "at the table" being out of touch with the stakeholders they are supposed to be representing is very common in many kinds of conflict resolution processes. The best strategy to deal with this potential problem is to keep the constituencies as informed as possible all through the process. So, for example, if there is someone who is supposed to be speaking for a particular village in a process to resolve a conflict, it is imperative that the negotiator consult often with all the factions in the village as solutions to the conflict are being discussed and shares with them the reasoning behind any proposed final agreement.
3. During the assessment phase, be sure to develop an understanding of the institutional context for the conflict, including an understanding of possible avenues for formalizing a settlement agreement.
4. Include those with the authority or power to institutionalize an agreement in the conflict resolution process.
5. Consider establishing a management committee or some other forum to monitor the conflict resolution agreement and keep stakeholders involved on a day-to-day basis in protected area management.
6. If conflict flares again, repeat the conflict resolution process, perhaps in abbreviated form.

# Chapter 3

## Other Consideration and Special Situations

### **Providing Benefits to Local People**

Providing benefits to local people and/or mitigating the adverse impacts of the protected area are the keys to addressing conflicts in many situations. The kind of benefits and mitigation will vary, but the theory is the same in each situation: opposition to protected areas, and the conflict that comes with opposition, will be reduced if local people think the protected area serves rather than hurts their interests.

Some of the approaches that can be employed to provide benefits to local people include:

- providing access to resources in protected areas on some regulated/ controlled basis;
- providing local people with alternatives so that they do not have to depend on protected area resources;
- offering employment, a portion of fees, or other direct benefits from the protected area;
- improving the socioeconomic conditions of local communities, and;
- providing compensation to local people for losses they have incurred as a result of the proximity of the protected area.

Strategies:

1. Before a protected area is ever established, assess the needs of local communities and the historical relationship between local people and the land that will be gazetted.
2. Lay out and design the protected area with local people's interests in mind. Develop a management plan that takes their needs into consideration.

3. Provide tangible benefits and mitigate the adverse impacts to local people from the protected area to enlist their support and to help avoid and address conflicts.

The case studies below offer a number of techniques and approaches that can be tried. In the Kunjerab National Park (Case Study 7) an attempt is being made to reduce conflict with the Shimshali people by providing them with a portion of the fees that are collected from hunters. Employment in a protected area is another benefit which may help reduce conflict, as illustrated in the Sagarmatha Park case (Case Study 14). Conflicts in the Manas Tiger Reserve in India (Case Study 20) and the Sierra Nevada Mountains of Colombia (Case Study 10) are being dealt with through comprehensive, long-term programs that address health, education, and economic development needs of the people. Another approach for reducing dependency on park resources is to find alternative sources of fibre, food, medicine, etc. for the local communities so that the park resources are no longer needed. For example, in the Air and Tenere National Reserve in Niger (Case Study 11), local people are shown how to use mud bricks instead of poles for the roofs of their houses, thereby reducing deforestation in the Reserve. When a conflict arises because of damage done to crops by animals ranging from a protected area, the solution may lie in providing compensation for the damage, as is in the Kunjerab National Park (Case Study 7).

For the reader who wants to look beyond this set of case studies, there are a number of excellent resources describing rural development, integrated conservation-development projects, buffer zones, and other strategies that attempt to integrate human needs and conservation objectives. While not explicitly oriented towards conflict resolution, these approaches will often have a conflict resolution or avoidance benefit.

## **Enforcement**

In some instances, conflict resolution may reduce the need for enforcement, especially when the conflict resolution effort addresses the real interests that underlie the conflict. However, in most cases, enforcement will continue to be a necessary compliment to the conflict resolution effort. There are several reasons why enforcement is important and necessary:

- Enforcement may be required to protect the resources of the protected area while the conflict resolution effort is underway.
- Strong enforcement may provide an incentive for violators to enter into discussions about how to resolve a conflict. Without strong enforcement, there may be little reason for violators to consider any alternatives to illegal behaviour that is contributing to a conflict.



- Enforcement is usually necessary to ensure that agreements arising from a conflict resolution effort are implemented.
- There always seem to be a few individuals who continue to operate outside the law, in spite of attempts to address their needs and interests.

Enforcement can be labour-intensive and costly. Faced with insufficient resources to staff, train, and equip their personnel, many protected area enforcement systems remain woefully inadequate. There are a number of ways in which enforcement can be integrated with the other aspects of a conflict resolution process and in which enforcement capacity may be enhanced.

Strategies:

1. Consider enforcement as an integral part of any conflict resolution strategy.
2. As part of the conflict assessment process, determine the root causes of violations on the protected area. Determine the interests at stake for the violators and try to develop solutions that address those interests.
3. Consider incentives and disincentives for ensuring compliance with protected area rules and regulations. Try to strengthen the incentives and minimize the disincentives.
4. Try to get as much understanding and ownership as possible from local people regarding the rules and regulations that are being enforced.
5. Consider collaborative efforts/partnerships in designing and conducting enforcement efforts. If possible use local community members as enforcement personnel.

The case studies of the Tubbataha Reefs National Marine Park (Case Study 12), the Bicol National Park (Case Study 13), both in the Philippines, as well as the Sagarmatha National Park (Case Study 14) in Nepal, demonstrate the importance of strong enforcement measures in reducing conflicts and protecting resources of the area. These cases underscore the importance of gaining the support of key decisionmakers and interest groups in an enforcement plan and show how collaborative efforts can be more fruitful than unilateral efforts. The case study of the Sagarmatha National Park also demonstrates the potential problems that can arise when outsiders are brought in to enforce park rules and regulations which restrict local people's access to park resources and the value of restoring a traditional enforcement system that places more control and responsibility in the hands of local communities.

## **Education and Public Relations**

Local people and protected area users may not be aware of the conservation values associated with the area. It is unrealistic to expect them to support protection measures or accept compromises that may be necessary to resolve a conflict unless they have a sense of those values. Therefore, education and public relations are key elements in most conflict resolution processes. Educating the public about the potential benefits associated with a protected area can be an important tool in avoiding and resolving protected area conflicts, especially over the long term, and can be critical in gaining support for the establishment of a protected area in the first place. In addition, educating the public about their responsibilities as protected area users can be critical in safeguarding protected area resources. In situations where protected areas have been established without prior public education, consultation, or dialogue with local communities regarding the reasons for and benefits of the area, the predictable outcome is conflict, especially when there is a negative impact on local communities associated with the protected area.

Typically, the intent of education and public relations is to inform affected groups of the protected area's goals, regulations, activities, and benefits; build a supportive constituency for the area; and help generate understanding of why enforcement measures are necessary, making them more palatable. It may also be a way to foster two-way dialogue between the protected area and its constituencies.

### Strategy:

1. Education/public relations efforts should begin as early in the protected area planning process as possible.
2. Education/public relations efforts should involve two-way communication so they can contribute to developing an open dialogue between the protected area and its constituencies.
3. To be most effective, education/public relations programs need to be designed according to the specific needs, audiences, and circumstances of the protected area.

The case studies of endangered turtles in the Greek isles (Case Study 15) and the National Park of Paria Peninsula, Venezuela (Case Study 16) illustrate how the use of education and public relations enable protected area administrators and advocates to forge partnerships and alliances with previously antagonistic groups for the benefit of conservation efforts. The cases also point to the effectiveness of using different educational approaches which have been developed according to the specific needs of the situation.

## **Conflicts Involving Indigenous People**

There are a variety of different kinds of relationships between protected areas and indigenous people who have historically inhabited or utilized lands within the area. In some situations, the creation of a protected area has entailed the incorporation of lands inhabited by indigenous people into the protected area jurisdiction. Protected areas have also been established to protect an indigenous people's homeland from further outside encroachment, enabling the indigenous inhabitants to maintain their traditional lifestyles while safeguarding the natural habitat. In other cases, however, protected areas have displaced indigenous inhabitants and/or imposed partial or total restriction on their resource use activities within the area. Often, these resettlements and restrictions on indigenous communities have been undertaken without prior consent by, or consultation with, the indigenous groups concerned, resulting in conflict.

The assessment in a conflict involving indigenous people should examine the historic and likely future relationship of the indigenous people to the land and its resources. It may be assumed that indigenous resource use patterns have deleterious impacts on the ecosystem which can not be remedied as long as the people are allowed continued access to the area. Yet, some indigenous groups have coexisted with their environment for generations without depleting environmental resources. While it may not be correct to assume that sustainable use patterns can or will continue into the future, that possibility should at least be evaluated, and steps taken to enable such patterns to persist, if possible.

Strategies:

1. Use the conflict assessment to clarify the interests and concerns of indigenous people and to determine whether there might be possibilities for mutually acceptable approaches to resolution of the conflict (including allowing the indigenous people to continue to inhabit the protected area or to use its resources).

The case studies about the Karen people in Thailand (Case Study 17), and the Yanomami people in Brazil and Venezuela (Case Study 18) demonstrate how indigenous communities have been or might be integrated into protected areas without jeopardizing either the ecosystem or the traditional lifestyle of the indigenous people.

## **Armed Conflicts**

Human-inflicted damages on protected area resources are frequently exacerbated when civil strife and related armed confrontations occur. In

the face of this kind of social turmoil, the conservation of the protected area's wildlife and other resources can become a formidable challenge. However, there may be anticipatory as well as crisis-oriented strategies that protected area managers can use to mitigate the damages from armed conflicts involving parks. It is important to have local community and government support for a protected area if there is to be a chance of protecting the area once armed conflict occurs. This entails responding to the interests of stakeholders in ways which have already been discussed. An effective and dedicated protected area staff will also be essential if armed conflict occurs.

Strategies:

2. Build community and government support for the protected area. This may help alleviate the damage done to the protected area in an armed conflict.
3. Develop a well-trained and dedicated protected area staff able to work under high stress and potentially dangerous situations. Provide additional incentives and motivation for personnel to perform during a period of civil unrest.

The case studies of Mayhem in Manas (Case Study 20) and Armed Conflicts and Protected Areas in Rwanda, Uganda, and Zaire (Case Study 21) provide some insights into the difficulties associated with armed conflict near protected areas.

## **The Role of Non-Governmental Organizations**

Non-governmental organizations (NGOs) can play a tremendously important role in conflict resolution. The role and power that NGOs have in society varies a great deal around the world. Increasingly, many NGOs wield considerable influence. NGOs' ability to play an effective role, and what exactly that role might be in a conflict situation, will depend a great deal on what the NGO is set up to do, its' credibility with local people and the government, and its' vision and resources. The breadth of approaches that NGOs have been able to undertake successfully in the conflict resolution context include advocacy, education, facilitation of consensus-building efforts among diverse interests, procurement of funds and resources, bolstering enforcement, and conducting research. The types of NGOs that have been influential in helping resolve protected area conflicts include those at the local, national, and international levels.

NGOs may be able to respond rapidly and introduce new initiatives or approaches to a conflict situation because they usually operate independently of government bureaucracy; they are sometimes able to tap

into resources not normally available to, government agencies; they may be able to apply pressure to higher decisionmaking levels in the government more effectively than the responsible government entities; and they are often successful in gaining local support for their activities (especially when they operate primarily at the local level). In a conflict situation, NGOs may be perceived as more neutral, and therefore better suited as mediators, than protected area managers or other government bodies. When negotiation is used to resolve a conflict, it is often NGOs who negotiate on behalf of certain interest groups. For this reason, it is important to evaluate who NGOs represent and to include NGOs who represent affected constituencies early in any conflict resolution effort. NGOs may also be helpful in conducting research, delivering education, and in easing the root causes of the conflict by providing economic development opportunities or other community development services that reduce the pressure on protected area resources.

Many NGOs have been created expressly for the purpose of providing advocacy and support for particular protected areas. For obvious reasons, it makes sense for protected area managers to cultivate relationships with these NGOs and to utilize the resources they can provide. As legitimate entities with real interests at stake, they should be included fully in protected area participatory processes, both at the creation of the area and in on-going management.

Strategies:

1. When conducting a conflict assessment, give particular attention to the potential role that local, national, and international NGOs might be able to play, (e.g., as mediators, negotiators, educators, or sources of resources to help resolve the conflict.)
2. NGOs should be viewed as groups representing constituencies with interests at stake, and should be included in the conflict resolution effort along with other legitimate interested parties.

The case studies of the Danube wetlands in Austria (Case Study 22) and Ecuador's protected areas (Case Study 23) are examples of direct action and advocacy campaigns aimed at pressuring the government to take legislative and administrative actions to help resolve conflicts. The case study on the alternative transit planning process in Yosemite National Park, U.S. (Case Study 25), illustrates how an NGO's initiation and facilitation of a collaborative planning process advanced the Park's transit management. The case studies of Amboro National Park, Bolivia (Case Study 24) and the Panamanian national parks of Soberania, Chagres and Darien (Case Study 26) describe how NGOs and government entities can effectively engage in the joint management of protected areas. These cases illustrate

the importance for protected area administrations to consider developing partnerships with NGOs who have those skills and knowledge that would be valuable in addressing conflicts in complex protected area systems.

# Chapter 4

## Case Studies and Papers

The cases that are included in this Chapter illustrate an array of different conflict resolution strategies and techniques. In addition to the cases, the Chapter includes a few papers describing theoretical approaches. The index in Appendix D describes which cases and papers best illustrate which strategies.

### CASE STUDY I

## Techniques to Resolve Conflicts in Natural Resource Management of Parks and Protected Areas

Edwin E. Krumpe and Lynn McCoy

**This case study illustrates the use of a public task force or advisory group to assist park managers in their planning and management decisions and conflict resolution efforts. This case is not tied to a specific protected area or situation, but instead lays out in general how to structure and use task forces and advisory groups.**

Managers of parks and protected areas have been increasingly challenged to make resource allocation decisions that balance competing interests and needs of a growing population with a dwindling natural resource base. Given the divergent viewpoints regarding appropriate long term park management strategies, serious conflicts have developed among the range of protected area constituents. The authors suggest that to ensure successful long-term management of public lands, the development of a relationship based on trust and cooperation between the key protected area

stakeholders, namely government agencies, private interests, and the public, is critical. They point out that this can be achieved through a public task force or advisory group which will assist park managers in their planning and management decisions.

In this paper, the authors discuss several techniques utilized by various public task forces that were formed to develop resource management plans which addressed competing uses in parks and protected areas within the United States. The techniques include: 1) selecting task force members based on certain guidelines; 2) defining the role and responsibilities of task force members; 3) developing decisions and recommendations based on a consensual approach among the task force members; 4) using a positive, common ground approach in identifying goals and issues; and 5) using team rotation techniques to maximize each task force member's opportunity for involvement in developing management recommendations.

### **Technique One: Selection of Task Force/Advisory Group Members**

Base the selection of task force members on a number of guidelines. For example, the task force should:

- include balanced representation of the diversity of stakeholders;
- include those with veto power (i.e., with enough power to overturn or effectively oppose any decision that is reached) and those with authority and/or credibility to represent their group; and
- be small enough to facilitate easy exchange of personal and technical knowledge (probably 25 members or less).

### **Technique Two: Responsibilities and Procedures**

The second technique is to clarify the responsibilities and procedures that will guide the conduct of the members of the task force. Such guidelines or agreements might include:

- making a commitment to represent an individual's interest group/constituency as best as possible and reporting back to respective constituencies;
- striving to reach consensus on decisions; being willing to work as a team member; being open to discussion; understanding a wide range of viewpoints; and
- focusing on ideas and issues rather than on personalities.



### **Technique Three: Decisionmaking Process**

The next technique involves trying to arrive at mutually-acceptable solutions rather than simple majority decisions using a consensus-based approach. A system that can be employed in gauging the level of support for a recommendation involves group members indicating whether they can:

- easily support the recommendation;
- support the recommendation although it may not be the preferred option;
- support the recommendation if minor changes are made; or
- support the recommendation only if major changes are made.

If all the task force members say they can easily support the recommendation or support it although it may not be the preferred option, then consensus can be assumed. If one or more of the task force members say they can support the recommendation only if changes are made then further discussion is necessary. If consensus can not be achieved, then it may be necessary to delay the discussion until later, assign a small group to work on the issue, agree to disagree, or (as a last resort) to vote.

### **Technique Four: Identify Values Held About the Protected Area**

Another step proposed in the management of a public task force is to build upon positive and common values which have brought the diverse members together. This approach seeks to break down psychological barriers between individuals of differing interest groups while building understanding, respect, cooperation, and hopefully consensus on issues. One method is to begin by having task force members write down a list of things they like or value about the protected area and then to go around the group and have each member present a value from the list. This simple process may help in getting members to realize that individuals from different interest groups share some of the same values. This list can also be used in a conflict resolution process to focus the group on the values they want to see maintained.

### **Technique Five: Use of Subgroups**

Finally, another useful technique that has been used is the team rotation technique which helps to maximize opportunities for individual task force member's involvement in the development of management recommendations. The process involves dividing the task force into sub-groups with diverse membership. Each sub-group is assigned to address a set of different objectives for the protected area for which they

need to develop joint management recommendations. After a set time, the groups rotate stations, leaving their list of recommendations behind them. At the next station a group will be able to review what the initial group recommended and add any other recommendations or modifications. The authors believe that this process promotes fuller participation by individuals and better sharing of information. After the group rotations, the recommendations are brought before the full group for discussion and ratification.

## **Conclusion:**

The techniques discussed in the paper were utilized in a variety of conflicts related to protected areas. The conflicts were over competing recreation uses, grazing, timber harvest, mineral extraction, and historic preservation. The authors point out that the experience in the United States has shown public task forces and advisory groups to be valuable in resolving conflicts and assisting managers in their protected area planning and decision-making process.

# CASE STUDY 2

## Peoples and Their Participation: New Approaches to Resolving Conflicts and Promoting Cooperation

Chandra P. Gurung

**This case study illustrates the use of a management committee to include local people in decisionmaking affecting the park, and to design ways in which local people are able to continue subsistence activities without harming the conservation values of the park.**

The Annapurna Conservation Area (ACA) located in northwest Nepal is home to over 40,000 inhabitants of diverse ethnic and tribal groups. The ecology of the area has been increasingly threatened by a combination of rapidly growing human population pressures (e.g., increasing in numbers of trekkers yearly as well as increasing in local population), intensive agriculture and overgrazing, and the depletion of the forests for wood and non-wood products. A pilot project of the Annapurna Conservation Area Project (ACAP) was initiated at the end of 1986 by Nepal's King Mahendra Trust for Nature Conservation, an NGO, to address the needs of economic development and environmental conservation of the ACA.

ACAP was conceived as a multiple land use scheme. The project's objectives were to conserve both the natural and cultural resources of the area for the benefit of the local people of present and future generations. Consequently, ACAP's activities have been based on local participation (focusing on the local people as the project's beneficiaries and including them in the planning, decision-making, and implementation process); the principles of sustainability (financial stability of the project as well as sustainable exploitation of the resources for local needs); and lami (working as a catalyst to bring together resources from the outside to meet the needs of the local people).

ACAP's integrated program of community development and environmental conservation has been implemented through a variety of

management committees. Of the various management committees, the Conservation and Development Committee (CDC) has been one of the committees formed and managed by local people. Under CDC there have been several sub-management committees, each charged with carrying out a single activity, such as forest management or health centre management. The CDC has the authority to set rules and parameters for the activities under its charge, such as timing for seasonal firewood collection. It also has the power to penalize those who breach the rules that have been set. Approximately 50% of local residents have contributed to community development projects either in cash or in kind. Furthermore, a majority of ACAP staff have been local residents. ACAP has also been sensitive to issues of representation in its' management committees. For example, in CDC, there must be at least one female member and membership is sought from diverse ethnic and social groups. In addition, a special program has been established focusing on the needs and priorities of women and involving them actively in decision-making processes and conservation efforts.

ACAP's approach has resulted in a model of sound resource management integrated into a traditional framework that has been more flexible than the national park model. This model has enabled local people to continue customary subsistence activities (including wood gathering, animal grazing, and hunting) while not harming the conservation values of the park, and thereby avoiding significant conflicts that might otherwise have arisen.

# CASE STUDY 3

## Resolving Conflicts Between Protected Area Conservation and Resource Utilization: The El Nido Marine Reserve

Samuel R. Peñafiel

**This case study illustrates the use of consultative dialogue facilitated by an NGO to help get community involvement in the development of park rules and thereby ease conflict between local people and the managers of a protected area.**

The El Nido Marine Reserve in the Philippines is one of the protected areas assisted under the Debt-for-Nature Swap program. Originally a marine sanctuary established in 1984, the sanctuary was converted into a marine reserve to expand its protection mandate to critical coastal, marine, and terrestrial environments. After the Reserve Management staff took office in 1989, friction began developing between the staff and local communities due to enforcement of penalties on local residents and fishermen for illegal activities in the Reserve. The strained relationship between local people and Reserve staff apparently stemmed in large part from the failure of the Reserve staff to adequately inform the local public at the initial stages about the Reserve's objectives, activities and regulations. The author notes that this oversight resulted in a set back of the implementation of programs and expansion of the El Nido Reserve.

The Department of Environment and Natural Resources (DENR) determined that to ensure long-term conservation of the Reserve, it would be necessary to expand the area of the former marine turtle sanctuary to include critical watersheds. A scientific study was conducted to determine where to relocate the Reserve's boundaries. Regulations, covering permitted and prohibited activities, were developed to guide the management of the area.

The Reserve management staff also launched several information campaigns and dialogues with the local community regarding the proposed

expansions and related regulations. However, the local people responded negatively and through the initiative of local government officials, developed a set of resolutions in opposition to the Reserve plan. This resulted in a further deterioration of relationships between the Reserve management and local government officials and the public.

The Reserve then decided to conduct a consultative dialogue involving local people, and top level officials from government agencies. In this face-to-face meeting with local people, the top level DENR officials discussed the rationale for the proposed expansion of the Reserve, clarified issues on proposed rules and regulations and reassured the local people. Local people were also given the opportunity to express their views and reactions to the proposal. An NGO representative acted as a facilitator in the consultative dialogue. The role of the NGO proved critical in winning the local communities' trust in the fairness of the process.

Several more meetings followed where the proposed management plans and regulations were refined. In the process, key personalities among the local residents softened their positions. Following the consultative dialogue meetings, the Reserve issued an Administrative Order promulgating the rules of the El Nido Marine Reserve. However, within a year there were complaints about some of the provisions. The dialogue was resumed, this time between the local Reserve management and the local people, resulting in amendments of the regulations to satisfy the access needs of local people to marine resources without jeopardizing conservation objectives. Ultimately, the local people accepted the expansion of the Reserve. Because the local Reserve management worked closely with various interest groups, the management plan for the expanded reserve was implemented.

The successful outcome in this situation can be attributed in part to the willingness of top government functionaries to: 1) come from Manila to a remote village to listen to the local people's interests and concerns, and 2) work actively to settle the issues raised in opposition to expansion of the Reserve. Another important factor was the involvement of a third party in the dialogues, an NGO in this case, which improved the local people's trust towards the Reserve management staff and DENR officials.

# CASE STUDY 4

## Human Park Conflict, the Case of the Benoue, Faro, and Bouba-Njida National Parks of North Cameroon

H. Njiforti and M. Tchamba

**This case study illustrates what happens when there is a lack of attention to both the procedural and substantive interests of people who live near national parks. The authors make a number of suggestions for how to address these procedural and substantive interests.**

Semi-structured interviews were conducted in numerous villages around the National Parks of Faro, Benoue, and Bouba Njida in northern Cameroon in order to determine the causes of the increasing conflicts between Park managers and local residents. Based on these interviews, the authors found that local people's needs and interests had been largely ignored by the Parks' management and that they had not been involved in the planning and management of the Parks nor been consulted by Park staff. The conflicts between local people and the Parks' administration had also been fuelled by a combination of: an increase in human population pressures in the area; crop damage and livestock predation from the wildlife in the Parks; rinderpest attacks on local communities' herds, forcing them to shift into farming on increasingly scarce arable, farm land; and attempts by hunters to restrict the activities of local residents who share the designated hunting zones encircling the Parks with them and who live, hunt, and farm there.

The interviews with the villagers revealed that most of them did not perceive benefits associated with the National Parks and a majority thought that the Parks had been created for outsiders, who appeared to have more rights in the Parks than local residents. Most of the local people were not aware of the rules and regulations that governed the Parks. Further, there had been many complaints by local people about the continuing problems related to their crop destruction and livestock predation by wildlife.

Based on these interviews, the authors recommended the following:

- participatory management being made an integral part of the Parks' management strategies;
- revision of access laws for the Parks and their resources, taking into account the socio-cultural needs of the local communities;
- a mechanism for compensating for damages incurred by locals as a result of the Parks' existence;
- education provided to villages on the reasons for the Parks creation and potential benefits;
- research on traditional methods for environmental conservation, and;
- revision of the status of the hunting zones to ensure that local people also benefit.

In 1994, the Parliament passed a law in which hunting zones will be established around the Parks for Villagers. Villagers will also be associated with the management of the Parks. Once implemented, further work will be carried out to see the impacts of this legislation.



# CASE STUDY 5

## The Richtersveld Saga

G.A. Robinson and Sandra Fowkes

**This case illustrates the need for and type of outcome that can result from consultation with local communities at the outset of establishing a park. It also provides an example of the use of respected third parties to facilitate the consultation between the members of the community and park advocates.**

In the Richtersveld region in the Northwestern Cape of the Republic of South Africa, the government had been under increasing pressure to establish a National Park to protect this unique mountainous desert region with a rich diversity of endemic plants. Among the groups that urged the establishment of a national park were a working group for the National Programme report to the International Biological Programme, the Wildlife Society of South Africa, and the National Parks Board of South Africa. Intra-governmental negotiations took place involving various government departments concerned with land acquisition for a park in that area. However, in March 1989, as an agreement for the park's establishment was about to be ratified, the community of Richtersveld applied for an interdict to stop the signing of the agreement. The mistrust and misunderstanding among the inhabitants towards the park proposal was in part the result of inadequate communication between park advocates and the affected parties regarding respective goals and interests. Community members also wanted more direct involvement in the park planning and decisionmaking process. In addition, the Richtersveld community felt that it had been misrepresented by the Northern Richtersveld Management Board who had supposedly represented community interests in the governmental negotiations.

Subsequently, another set of negotiations was conducted, this time involving broader public and community interests. In 1989, three meetings were held, each lasting two days, involving key affected interest groups in the development of an agreement of conditions under which the Richtersveld National Park should be established. These meetings were facilitated by two botanists who were regarded by all parties as impartial.

As a result of these negotiations, a new contract was drawn up in which community interests were integrated into the formulation of the Park. For example, where grazing stock was to have been excluded from one area and phased out of two other areas, provisions were now made for stock units to be reduced on a voluntary basis when alternative land was made available to pastoralists. Additionally, in the initial governmental plan, the responsibility of the Park management would have rested solely with the National Parks Board. In the subsequent arrangement, a Management Plan Committee would be formed consisting of four Parks Board members and four elected community representatives. The latter Park plan also made provisions to set up a Richtersveld Community Trust where the Parks Board would pay set fees per hectare per year to this fund and also channel its net profits to the community from its proposed succulent nursery. Furthermore, residents of northern Richtersveld would get preference as employees of the Park. As a result of the negotiations, all parties signed a Richtersveld National Parks contract which created the Park and established the conditions under which it should be managed.

# CASE STUDY 6

## Forest Allocation and Conservation in Tasmania Can Both Win?

Evan R. Rolley and Michael J. Brown

**This case illustrates use of a consensus building process which involved the establishment of a number of bodies to provide agreed-upon databases; independent panels of experts to provide advice; and Regional Advisory Groups to ensure local community involvement throughout the process. The purpose of the process was to develop policies for forest land use for uncut forests outside of forest reserves.**

In the island state of Tasmania in southern Australia, forest land use conflicts have arisen regarding uncut forests that are outside forest reserves. Fourteen percent of Tasmanians are dependent on forestry for their livelihood and there is high demand for wood and wood-based products. The island's high endemism in both flora and fauna has also attracted the concern of conservationists. Efforts to resolve the conservation/utilization issues were initially carried out through a government-formed Commission of Inquiry in 1987 which was charged to investigate the land area in debate and to recommend upon its possible designation as World Heritage Status. However, this process, conducted in an adversarial, legal arena, failed to produce a satisfactory solution. The Commission's findings were rejected by the Commonwealth Government who came up with a compromise solution aimed at balancing the diverse interests. However, this decision failed to resolve the conflict. Nevertheless, some valuable lessons were gained in this process, including the importance of having expert opinion, the need for an agreed-upon set of facts and data, and the problems related to resolving the conflict in a legal, adversarial setting.

In 1989, a Parliamentary accord was signed, which subsequently led to an agreement between the major forest land use disputants (i.e., timber industry, private forest landholders, unions, environmental groups, and government agencies) to jointly develop a Forests and Forest Industry Strategy. This agreement marked a breakthrough as it reflected each of the group's willingness, for the first time, to formally recognize each other's

agendas and to pursue good faith efforts in collaboratively resolving the issues in dispute. Subsequently, the Forests and Forest Industry Council was convened to engage in a multi-party, consensus-building dialogue (without the assistance of a professional, independent mediator) to develop a "Forests and Forest Industry Strategy." This process involved: the establishment of a number of bodies to provide agreed-upon databases and assessment overviews in cooperation with interested stakeholders; establishment of independent panels of experts to provide advice on matters related to the development of the strategy; and the establishment of Regional Advisory Groups to ensure local community involvement throughout the strategy development process.

The process broke new ground in the relations between land use adversaries in producing a win-win approach for resolving land use conflicts. However, the final document did not gain unanimous support from all groups involved; notably, the environmental groups withdrew their support. Nevertheless, the State government proceeded to implement the major reforms negotiated by the parties, many of which have also been legislatively adopted in the Public Land (Administration and Forests) Act of 1991. The key components of the strategy included protection of forested land areas of highest conservation value, legislated security for wood production areas, processes to address changes to land tenure over time, greater public input to forest planning, and acknowledgement by the main interest groups of the need to address community costs associated with the win-lose outcomes from past land use conflicts.

# CASE STUDY 7

## Survival in a Vertical Desert

Ashiq Ahmad

**This case illustrates the depth of opposition/conflict that can arise when a new park is proposed that would exclude traditional grazing use of the land and how negotiations resulted in a decision to allow some use.**

In the Pamirs of northern Pakistan, clashes between local people (including the Shimshali and Gojali) and government officials occurred following the establishment of the Kunjerab National Park in 1975. The national government had been pushing for this Park based on management that would exclude uses except wildlife protection. However, tremendous local opposition to the Park arose as it became apparent that a part of the traditional grazing land had been included within the core of the Park and that access to these lands would be denied to villagers. Compensation for the loss of grazing rights had been promised by the government to the local villages but never delivered. Consequently, illegal grazing and poaching in the Park increased (with members of local security forces also implicated) resulting in the decline of wildlife.

In June 1989, a workshop was held in Gilgit in collaboration with IUCN, the United States Park Service, and local and federal government agencies. The workshop discussed the existing Park situation, developed certain management guidelines and stressed the need for preparing a detailed management plan for the Park. The Government of Pakistan then contracted the preparation of a management plan. The local communities of the Park who were already depressed by losing a portion of their grazing lands, and had no trust in the government agencies, developed further suspicions because of the workshop that they might lose the rest of their grazing lands as well.

From this, a series of confrontational events ensued, including a court trial over the villagers' rights to Park resources and illegal police removal, strikes, and blockades carried out by local people against the Park administration. According to some reports, the local people started killing

prominent wildlife species to remove any justification for the existence of the Park. As a result of this situation, it was not possible to involve the communities in the management of the Park, and attention was focused first on resolving the conflict and restoring the trust of the people before preparing the management plan.

After a lengthy period of meetings and dialogues, the dispute was ultimately resolved in January 1992 when an agreement was signed by representatives of local administration, Park authorities, and local communities. This agreement formed the basis of a management plan which was presented to the government, representatives of the local communities, and all provincial wildlife departments in May 1994.

The plan introduces a floating zoning system which will ultimately merge into a permanent zoning system and allows traditional grazing rights in places where the native wildlife species or the range of vegetation is not threatened. This agreement will continue until other sources of livelihood are developed or created within and outside of the park for the local communities, (e.g., through ecotourism and other income generating practices which are described in the plan).

The plan was prepared for a part of the Park with the hope that when benefits of the Park are felt and received by the adjoining villages, the rest of the Park communities would also agree to abide by the rules and regulations of the Park. The plan is being considered a good addition to the conservation efforts in Pakistan and, since it was prepared in consultation with all relevant agencies and local communities it is hoped that it will be easily implemented.

# CASE STUDY 8

## Protected Area Management and Human-Related Conflicts in Latin America: El Angolo Hunting Reserve, Peru

Len West

Local contacts: Professor Manuel Rios or Professor Jorge Dieguez

**This case study illustrates a proactive attempt to gain support for a natural area and avoid conflict with local people by arranging for them to be utilized as guides, wildlife consultants, and camp assistants in a summer research field site.**

In 1976, the Department of Forestry Management at the National Agrarian University La Molina (UNALM), Peru, established a summer field research site for college biology majors at the El Angolo Hunting Reserve located adjacent to Cerros de Amotape National Park in northwestern Peru. In 1977, the hunting reserve was joined with the Park and a contiguous forest reserve to form a protected area totalling 226,300 hectares called the Northwest Biosphere Reserve.

The Department established a graduate wildlife management program in 1985 and with additional technical and financial assistance from the Canadian International Development Agency, World Wildlife Fund (WWF), and the U.S. Fish and Wildlife Service, set up a program to fund graduate thesis projects at the Reserve site.

Cooperative agreements were signed between the national and regional governments through the Ministry of Agriculture (MAG), UNALM, the National University of Piura, and two local community cooperatives. A subsequent concession was granted by MAG to the Hunting, Fishing and Tourism Club of Piura to administer a portion of the hunting Reserve and they work closely with UNALM in coordinating research projects as well as controlling access to the Reserve. Perhaps more important than these high level agreements, however, was the agreement with local ranchers and their employees who were incorporated into the program to serve as

guides, wildlife consultants, and field camp assistants. The University benefited from the arrangements by gaining the support of the local people for its summer research field site and also by being able to integrate local knowledge of wildlife behaviour into its research projects. Meanwhile, the local community benefited in the form of financial compensation for their involvement in research projects. They were also given the ability to influence the choice and design of studies at the research field site. In addition, a private foundation in Canada contributed substantial funds for student research projects.

The effects of the project on the overall local economy have been minimal to date, but those people contracted locally have benefited at least in the short-term. Although many of the ranchers living in or around the Biosphere Reserve are probably only superficially aware of the program, local support for the projects is, for the most part, good. The results of the projects are still coming in. Projects analyzing vegetative cover, floral and faunal surveys, and socio-economic surveys are ongoing.

Some concrete benefits realized to date include:

- Improved environmental education programs and materials for local schools, provided by the program.
- One thesis project's demonstration that a species of coastal fox (*Pseudalopex sechurae*) found in the Reserve that was once thought by local inhabitants to figure prominently in livestock depredations is now known to be largely herbivorous. As a result, local campaigns to eradicate the fox have decreased markedly.
- In addition to funding, international technical assistance in the form of donated instruments and veterinary advice provided to local ranchers for their domestic animals.



# CASE STUDY 9

## Resolving Conflicts About Protected Areas: The Case of Botswana

Goitseone Lebonetse

**This case study illustrates a range of benefits that can be offered to local people to help reduce conflict and opposition to protected areas.**

This case study describes several potential solutions to conflicts based on the experiences of national parks, game reserves, and wildlife management areas in Botswana. Conflicts have arisen in these areas because of: loss of access by local people to good, arable lands and pasture that were being converted to protected areas; human population expansion; predation/damage by wildlife; the lack of public relations and extension work by protected area managers; and perception of bias by the Department of Wildlife and National Parks towards tourists and safari companies to the detriment of local people.

The author noted that the protected area managers may be able to more effectively prevent illegal activities in Parks by investing in the development of social services and alternative employment for local communities instead of relying solely on increased law enforcement. Furthermore, a variety of benefits could be extended to local people, including: allowing some grazing of domestic animals within designated sections of protected areas during the drought period; allowing local people to cut thatching grass for personal usage on a regulated basis; allowing people to access water sources in the protected area; providing transit through protected areas without permit requirements and possibly free transportation; and electrification of cattle kraals to prevent predation by protected area animals.

In addition, part of the monies collected by protected areas should be funnelled to local communities so that there is a direct benefit to local people from the protected area's existence. These funds could be channelled to the communities via community institutions, such as clinics and schools. In addition, park authorities could provide input to community based projects by making equipment, materials, or other

resources available. It is important for any locally-oriented program to reflect knowledge of and respect for local people's culture, religion, subsistence tradition, and ancestral ties to particular resources in the protected area.

# CASE STUDY 10

## The Law of the Mother

Elizabeth Kemf

**This case study illustrates community development and conservation projects as part of a comprehensive approach to restoring the ecology of a region of Colombia in which there are several protected areas and a high level of conflict among different groups of residents.**

A number of conflicts among its diverse inhabitants have developed in the Sierra Nevada region in Colombia. Boundary disputes have emerged between indigenous people (the Kogi, Arsario, and Arhuaco Indians) who live, hunt, and farm inside the Sierra Nevada de Santa Marta National Park, and other rural communities (the campesinos) who were removed from the Park upon its creation. In addition, marijuana crops discovered in the area were destroyed by troops without regard for creating alternative employment for the growers. To add to these problems, civil strife has prevailed in the area and the presence of guerrilla fighters has created a war-like situation. The ecology of the area has been increasingly threatened by the population pressures of a growing indigenous population and immigration of settlers into the Sierra Nevada area.

Lead by the Fundación Pro-Sierra Nevada de Santa Marta, an NGO, established in 1986 under the charismatic leadership of Juan Mayr, and with the collaborative efforts of other NGOs and government agencies, a broad conservation and sustainable development strategy has been developed and implemented in this strife-torn area. In the process, the combative groups have been brought together to provide their input on a joint conservation strategy. Initially, a socio-economic study of the diverse inhabitants of the area was conducted to assess the different needs. Subsequently, four conservation and educational stations were established to serve as models of sustainable development for rural farmers and indigenous people living in and near the Park. As part of this program, efforts have been made to incorporate traditional indigenous systems of agriculture, terracing, and irrigation which had been largely forgotten. Other components of this conservation program have included:

establishment of a community reforestation program for the cultivation of fruit and commercial timber nurseries; establishment of a consumer-producer cooperative to facilitate the marketing of produce and timber products; creation of a Training Center to provide local people with training in cooperative management; and the creation of a health post to provide primary health care and family planning to the inhabitants.

Local settlers have begun to model their homesteads after one of the conservation stations and to build irrigation terraces for their home gardens which has led to improved nutrition and income generation. Further, tree planting efforts have helped to restore the surrounding ecology.

All of these efforts have been enhanced by Juan Mayr's personal dedication to the project and his willingness to get to know and interact on a personal basis with all of the different interest groups in the area. He has paid particular attention to cultivating positive relationships with community and religious leaders, and this has paid off in the trust which he has been able to develop with conflicting groups.

There is a sense that conflict in the area has been eased somewhat as a result of these various development activities and the collaborative way in which they have been planned and implemented.

# CASE STUDY 11

## Men in Blue - The Twareg of the Air and Tenere Reserve

Terry Slavin

**This case illustrates an attempt to avoid conflict with local people by allowing controlled access to resources in a protected area. It also illustrates the challenges of management when all-out civil war erupts.**

The 77,000 square kilometre Air-Tenere National Nature Reserve, located in northern Niger and established in 1988, is home to rare flora and a fabulous array of ungulates, birds, and other wildlife. The WWF/IUCN Air-Tenere Conservation and Development Project was instituted to help conserve the natural resources of the park while supporting the needs of the ethnic Twareg inhabitants. Twelve percent of the Reserve has been set aside strictly as a wildlife preserve while the rest of the area allows controlled access to the Twareg for subsistence uses. The Project has involved the Twareg in the management of the Reserve through a system of voluntary representatives. In addition, the Project has launched various community based activities in the Twareg community aimed at promoting an environmentally sound and economically sustainable lifestyle. There have been experiments to demonstrate alternative building and agricultural techniques, including the construction of roofs using adobe bricks, well digging and maintenance, recovery and use of deteriorating pastures, and solar vegetable drying. The project has resulted in the adoption of the roof design by some local masons and visible improvements to the quality of the rangeland in the Reserve. Because they are realizing benefits from the Reserve, it is supported by many of the local people.

However, civil war engulfed the region in 1991 and the Director of the Conservation and Development Project was kidnapped and taken hostage by rebel forces in 1992 and presumably killed. As a result, the Project was put on hold. When the conflict moved away from the centres of wildlife concentration, local people took the initiative to try to restart the Project. Their support and perseverance is tribute to the quality of the management scheme that was developed prior to the conflict.

# CASE STUDY 12

## The Tubbataha Reefs National Marine Park

Samuel R. Peñafiel

**This case illustrates a situation in which enforcement appeared to be the only viable way to address a conflict where illegal activity was endangering park resources.**

The Tubbataha Reefs National Marine Park in the Philippines is jointly managed by the Department of Environment and Natural Resources (DENR), and the Tubbataha Foundation (an NGO). In part due to its remote location, no Park wardens were stationed in the Park for a period of time following its establishment. Subsequently, it came to the attention of the managers that a private firm, the Shemberg Marketing Corporation (SMC) had started operating a seaweed farm in the Park without permission.

Efforts to evict the seaweed project from the Park premises were hindered when the seaweed growers disclosed that they had secured a permit from the local authority. Meanwhile, SMC tried to gain the support of the provincial government and other politicians for the seaweed project. In an attempt to secure the continuation of the seaweed farming in the Park, SMC turned over the seaweed project to the provincial government. At the same time, SMC and several key local government officials prepared a draft proclamation with the intent of amending the Parks' charter to permit seaweed growing.

However, the DENR and the Tubbataha Foundation were able to get the support from the Philippine Coast Guard and several other local government officials for evicting the seaweed project. In addition, an influential local politician who initially supported the SMC's seaweed project withdrew his support of the project. With the collaboration of the local government and the Coast Guard, the DENR and the Tubbataha Foundation were successful in evicting the seaweed project from the Park premises. The Department of Social Welfare and Development assisted with the relocation of the seaweed project personnel. Since the eviction, the Park has been free of any efforts to reintroduce seaweed growing.

# CASE STUDY 13

## Resettlement of Forest Occupants From the Bicol National Park

Samuel R. Peñafiel

**This case illustrates an enforcement effort developed and carried out collaboratively among a number of different agencies.**

The construction of a national highway and power transmission lines across the Bicol National Park in the Philippines resulted in an influx of squatters into the Park premises who depleted Park resources by logging, poaching, swidden farming, and charcoal making. In addition, various management problems contributed to the rapid deterioration of the Park. The Park suffered from inadequate numbers and training of Park warden staff, inadequate equipment, poor facilities and lack of other logistical support for forest protection measures, involvement of some government and military personnel in illegal logging activities, and lack of public support for the campaign to protect the Park.

In view of the degenerating situation, the Department of Environment and Natural Resources (DENR) led a joint study, involving five government agencies, on the problems facing the Park and potential strategies to rehabilitate the Park. The study recommended the resettlement of the 403 squatters living in the Park. Subsequently, DENR held a series of conferences with a diverse set of interest groups, including local government units, the Philippine Army, other national government agencies (such as the Department of Public Works and Highways and Department of Agrarian Reform), and NGOs to discuss the resettlement plan and implementation. Although there was limited funding for resettlement, with the collaborative efforts and pooled resources of the different groups, 180 families were resettled.

Meanwhile, a task force was created to oversee and carry out the enforcement of Bicol Park's laws. Law enforcement was bolstered with an increase in staff. In addition, the task force assisted in Park restoration activities, resettlement of the squatters, and an information campaign. Although there were several local politicians who intervened on behalf of

the poachers, the task force had gained the full support of high-level decisionmakers in the DENR and firmly pressed on in fulfilling its mandate. The re-entry of squatters has been stopped and local government executives have started to support movements to save the Bicol National Park from further deterioration.



# CASE STUDY 14

## Traditional Forest Management in Sagarmatha National Park

Mingma Norbu Sherpa

**This case illustrates the problems of imposing an enforcement scheme from outside the community and the potential benefit of using a traditional local enforcement system.**

The Sagarmatha National Park in Nepal is a traditional home to the Sherpas, an ethnic group who base their subsistence on agriculture, pastoralism, and forest use. Prior to the establishment of the Park, the Sherpas practiced a system of forest management regulated by local communities. This shingi nawa system involved the appointment of forest guards on a rotational basis among the villagers, who were given the power by the community to enforce community rules for managing common property resources. The rules included respect for boundaries of protected forest areas, wood collection zones, and dates for agricultural activities (applied to harvesting crops, hay making, leaf litter collection, and movement of cattle). The forest guards had the authority to fine violators. The guards were farmers themselves who assumed the shingi nawa responsibility seriously and were respected by the rest of the community.

With the establishment of the Sagarmatha National Park, a different set of regulations and enforcement system was imposed on the Sherpa community. A contingent of Army and civil staff was brought in from outside to enforce the Park rules. A series of efforts was made by Park officials to develop dialogue with the local villages and to integrate the needs of local people into the planning and management of the Park. For example, the Park administration decided not to relocate the main Sherpa villages. Instead the villages within the Park were legally excluded from being part of the Park boundaries and residents' rights to crop and hay lands were protected. In addition, in response to villagers' complaints, the Park administration abandoned its permit system of collecting dead wood and allowed some timber to be cut locally. However, the Sherpas remained disapproving and suspicious of the Park establishment. It has been estimated that the forest depletion rate was twice as high in the early stages

of Park establishment as it had been in the preceding two decades. This was largely attributed to resentment of Park rules, resulting in local people cutting down more firewood and timber than they needed in places where Park staff could not properly regulate such activity.

At the initiative of the case study author, a native of the area and also a Park warden, the traditional shingi nawa was informally restored in the area, thus giving back to the local communities greater control and responsibility over park resources. Improvements in the relationship between the local people and the Park administration were noted and increased cooperation and coordination on park protection measures resulted. However, the informal and unofficial status of the shingi nawa system remains vulnerable to interference from Park administrators.

# CASE STUDY 15

## Turtles vs. Tourism in the Greek Isles

Elizabeth Kemf

**This case illustrates the value of an education/public relations campaign to help mitigate conflicts between tourists and a delicate natural resource (turtles).**

In the Greek Isles, particularly on the island of Zakynthos, tourism-based activities have become a threat to the survival of the endangered loggerhead sea turtles (*Caretta caretta*). The annual migration of the sea turtles to their nesting grounds on the sandy beaches of Greece has become increasingly risky due to the obstacles encountered on the beaches (e.g., beach umbrellas, garbage cans, refuse, and vehicles). In addition, speedboats in the offshore waters, many of which are in violation of speed limits and the boating ban off main nesting beaches endanger the turtles lives.

The Sea Turtle Protection Society of Greece (STPS), with support from WWF, United Kingdom, has developed an extensive public education program in an attempt to gain local understanding and support for the protection of the sea turtles and the establishment of a national park in Zakynthos and to reduce the level of conflict between the interests of turtles and people. In addition, they have sought to raise awareness among tourists about the need to safeguard the turtles and their nesting grounds. The comprehensive education, information-dissemination, and advocacy campaign involves: distribution of information leaflets to tourists via tourist agencies explaining the protected zones designated for turtles and describing ways that tourists can ensure the turtles' survival; presentations of slide shows in local hotels that raise awareness of the issues and explain precautions to take; establishment of information kiosks; and the solicitation of signatures for a petition-drive to pressure the government to establish a national park in Zakynthos. In these various efforts, STPS has gained the cooperation of many local hotels, hotel owners, wildlife researchers, and tourists, many of whom had previously opposed protection measures. These efforts have helped spread a conservation ethic among local businesses, community leaders, and visitors.

## **CASE STUDY 16**

# **National Park of Paria Peninsula: Local Needs vs. Global Strategies - How to Reconcile the Conflicts**

Clara Ferreira, Iokine Rodriguez and Christopher Sharpes

**This case illustrates how development activities, education, and research can fit into a comprehensive program of community development to reduce conflict between a park and local communities.**

The National Park of Paria Peninsula in Venezuela has been plagued with increasing encroachments for agricultural and resource-extraction activities from impoverished rural communities living in the vicinity of the Park. Enforcement efforts have been hampered by delays in putting park guards in place and their lack of training, compounded with ill-equipped Park facilities. In addition, the implementation of enforcement activities has antagonized the local people. There has been poor communication between the Park personnel and local people about the purpose of the Park and about the location of the Park's boundaries.

At the initiative of the National Park Commission of Provita, an integrated education and alternative development project was launched for the protection of the Park and for sustainable development of the local communities. The project has the following components: 1) conducting environmental education directed at adults and children of the local communities and other populations on the Peninsula; 2) designing sustainable agriculture practices for rural communities; 3) developing alternative subsistence-based economic activities for the rural communities, including family orchards, honey production, and ecotourism; and 4) undertaking research on the ecology and ethno-zoology of the park.

The project began with an initial assessment of problems and the development of a proposal addressing the scope and objectives of the project. The assessment included questionnaires and in-depth interviews in four communities near the Park to find out about the needs of the local people, and the reasons for their opposition to the Park. One of the

fundamental problems that the members of the communities complained about was the lack of opportunity for meaningful participation. This was identified as a serious problem because alternative proposals were being suggested and the input of local people was critical. The communities were capable of participating but they needed to feel they were being taken into account and their opinions respected.

One of the more serious problems of these communities is the unsustainable use and extraction of natural resources in and around the Park, (e.g., cutting virgin timber, overusing land that is only marginally suitable for agriculture, and polluting water sources). These same resources are the principal, if not only, source of livelihood for the local people, who live in extreme poverty. Many of these people believe that intense exploitation of local natural resources is the only avenue to a better life. This situation is a result of the lack of alternative sources of income.

In response to these problems, the National Park Commission of Provita is attempting to provide education about alternative agricultural practices, develop economic alternatives (e.g., large-scale fruit-tree plantations such as orange, mango, and lemon/lime suitable for export out of the local area), and expand markets around the country. Ecotourism may be one alternative but local experiences with ecotourism to date have not been favourable and local people are not generally supportive of the ecotourism industry.

In summary, a great deal remains to be done to address the economic needs of local communities and ultimately alleviate the conflicts between local people and the Park.

## CASE STUDY 17

# Surviving (or Enduring/Challenging) the Winds of Change: Karen People Live in Harmony With World Heritage

David L. Hulse and Seri Thongmak

**This case illustrates how research and documentation of indigenous people's resource use may be helpful in deciding whether they can be allowed to live within the boundaries of a park. In this instance, anthropologists and agricultural researchers demonstrated that the Karen people's lifestyle could probably be compatible with the conservation objectives of the Sanctuary.**

One of the few remaining refuges where the forest-dwelling Karen people have been able to maintain their traditional lifestyle is inside the Thung Yai Naresuan Wildlife Sanctuary in Thailand. Within the sanctuary, there are six villages which are home to a population of 1,100 Karen people. However, government officials from the Royal Forest Department, some conservationists and some academics have been in favour of the removal of the villages in order to preserve the forest ecosystem. The relationship between the Karen people and most outsiders has been marked by mutual mistrust and misunderstanding. The debate over the resettlement of the Karen from Thung Yai intensified when Thung Yai was declared a World Heritage Site.

The Karen's continued residence in Thung Yai has been championed by a loose coalition of grassroots and conservation groups. This coalition has advocated for the Karen's rights to remain in the Sanctuary which they have occupied for centuries. Meanwhile, various efforts have been undertaken to document and better understand the impacts of the Karen's cultural and subsistence practices on their environment as well as to carry out environmental education and basic extension activities in Karen villages.

Anthropologists and agricultural researchers have found that the Karen people have an agricultural management system defined by a set of rules which ensure that their cultivation practices do not deplete the soil. For example, a Karen family never plants more than three plots of land and they select their rice and vegetable plots only after bamboo shoots emerge in order to avoid disrupting the natural forest cycles. The Karen also employ a system of multi-cropping rice with various other crops to balance the nutrients in the soil, plant several rice varieties to protect the crops from pests and diseases, and apply natural fertilizers.

The documentation of the Karen's environmentally-sound agricultural practices have contradicted the Thai government officials' perception that the Karen belong to the category of destructive slash-and-burn agriculturalists. Partly as a result of advocates' efforts in documenting the cultural and agricultural practices of the Karen, the Karen people have been allowed to remain in Thung Yai. However, uncertainty remains as to the Karen's status in the Sanctuary given that land and forest policies tend to change with successive governments.

## CASE STUDY 18

# History, Conservation, and Human Rights: The Case of the Yanomami in the Amazon of Brazil and Venezuela

Leslie E. Sponsel

**This case illustrates how the Biosphere Reserve model might be a way to establish a "safe haven" for the Yanomami people while ensuring some protection for their natural environment.**

The survival of the Yanomami people and their territory (found in Brazil and Venezuela) has been increasingly endangered, especially in Brazil with the encroachment of gold miners into their territory, and more recently also into Venezuela. The invasion of 40,000 to 100,000 gold miners in the 1980's has caused deleterious impacts to the Yanomami's health, socio-cultural fabric, and natural environment. This has been facilitated by the lack of protection and regulation from the Brazilian government. Road construction and mining operations have caused significant deforestation, game population displacement, soil erosion, mercury contamination, and other forms of pollution in Yanomami territory. In addition, previously alien forms of social problems are becoming increasingly common, including poverty, alcoholism, and prostitution. Further, epidemic diseases such as influenza, malaria, and tuberculosis, introduced into the area by the miners, have had a devastating impact on the population of villages. In 1993 a massacre of Yanomami villagers, mostly women and children, at the hands of disgruntled miners was reported around the world. In late November of 1993, 16 more Yanomami were found dead in Venezuela, probably from mercury poisoning, a consequence of gold extraction.

In order to preserve the Yanomami's culture and land tenure as well as the integrity of their natural environment, a Biosphere Reserve initiated by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) Man and the Biosphere Program is being considered as one viable compromise zoning model. Biosphere reserves are protected areas of representative ecosystems whose scientific, educational, and conservation values for sustainable development are internationally



recognized. The design of the model is based on three concentric zones: a central "core area" which is a strictly protected area; a "buffer zone" surrounding the core area in which research, educational, and recreational activities are allowed; and "transitional areas" surrounding the buffer zone which are designated for sustainable economic development through cooperation between scientists, park managers, and local populations.

In the proposal which has been put forward, the Yanomami would occupy the core area and non-Yanomami people would be prohibited from entering this area; the buffer zone would be used for assistance programs to the Yanomami and selected research and education activities for non-Yanomami people; and the transitional zone could be used for regulated mining, upon consent of the Yanomami. The mining would be kept at a small scale with rotation of mining fields and restoration of depleted mining fields and royalties would be paid to the Yanomami by mining companies in payment for temporary use of their land and extraction of some of their natural resources. The programs could be monitored by a United Nations Peacekeeping Force or comparable international humanitarian organization in collaboration with scientists familiar with the Yanomami and their ecosystems. It is believed that international intervention will be necessary if the governments of Brazil and Venezuela remain incapable of protecting the Yanomami and their environment as has been the case for a decade.

## CASE STUDY 19

# Banc d'Arguin National Park: Why Natural Resources Conservation Requires The Development of Fishermen's Communities

Pierre Campredon, Luc Hoffmann, and Hadya Kane

**This case illustrates the innovative approach of providing a park's inhabitants exclusive exploitation rights as a viable means to ensuring sustainable management of the park's resources.**

The Banc D'Arguin National Park, in Mauritania, is the cradle of the immense fishery wealth of the West African coast and during the winter harbours the largest concentration of wading birds in the world. It is also home to the Imraguen people, a small native population of fishermen. Since the 1980s, conflict has arisen as a result of increasing encroachment of industrial trawlers into offshore Park boundaries; intrusion of Senegalese fishermen into Park waters for small-scale fishing and for temporary squatting on the Park's coast; and increased fishing by the Imraguen for commercial sale to seafood dealers. It has been particularly difficult for the Park management to mitigate these pressures on Park resources because of the public perception that large areas of the Park are urgently needed for economic development.

In response to the increasing threats to the Park, the International Foundation of the Banc D'Arguin (FIBA), comprised of foreign and international organizations under the honorary presidency of Mauritania's Chief of State, was created. FIBA has helped increase the Park's status and funding support for the Park's management. In addition, the Park became a World Heritage Site and is listed under the Ramsar Convention.

FIBA has focused its attention on the plight of the Imraguen people who face increasing restrictions in compliance with Park rules and a degenerating capacity to maintain their traditional fishing practices compounded by a persistent drought. A strategy has been launched that integrates Park conservation efforts with sustainable development for the Imraguen people. It was determined that in order to preserve Mauritania's fishing economy, it would be necessary to save the Banc D'Arguin Park,

and to save the Banc D'Arguin, the Imraguen people's traditional lifestyle had to be maintained. The Imraguen people were thus given exclusive rights to use the fishery resource based on an assessment that their many generations of able stewardship in the area rendered them best suited to manage the Park's resources sustainably.

A number of community-based projects have been initiated to enable the Imraguen to continue their traditional methods of fishing while improving the living standards of their communities. These include programs for training marine carpenters, repairing deteriorating boats (lanches), and constructing new lanches to progressively replace the Imraguen's existing fleet. These projects were based on the traditional design but involved better construction techniques and materials. The fishermen benefiting from these projects have been asked to contribute to the surveillance of the Park and to donate some of their time and use of their boats for tourist and research activities in return for the benefits they receive. If this program had not been established, the Imraguen would have turned from their distinctive traditional sail boats to motorized boats indistinguishable from those used by the intruding Senegalese. The result would have been an easy invasion of the Park waters by the Senegalese.

Additional projects focused on raising the value of fishing products and providing more effective commercial outlets. Old drying pens which traditionally were reserved for women have been rebuilt in order for women to continue this function. Other projects are planned for improving education, health, and water supply facilities.

## CASE STUDY 20

### Mayhem in Manas

S. Deb Roy and Peter Jackson

**This case illustrates a multi-faceted approach for dealing with armed conflict: negotiation with the combatants, socio-economic development, and development of a strong park leadership.**

The Manas Tiger Reserve, a wildlife reserve designated as a World Heritage Site in the northeast of India, has been seriously affected by incursions of separatist Bodo groups whose homeland claims include the Manas Reserve area. There have been several deaths of Park guards, looting and destruction of the Reserve management's facilities, and an overall disruption of Reserve management activities. The Reserve administration's loss of control in strategic areas has led to an increase in illegal timber extraction and poaching. The degradation of the resources has also been exacerbated by the encroachment of impoverished local populations on the Reserve for agriculture and extractive activity. As a consequence, friction has developed between local people and the Reserve personnel due to apparently conflicting objectives, prompting local sympathy for the Bodo separatists. Armed police forces were brought into the Reserve in hopes of restoring authority, but incidents of property damage and attacks on Reserve staff continued.

A decision was finally made to change the leadership of the Reserve in hopes of increasing the Reserve administration's effectiveness in the face of political turmoil. Efforts were also undertaken to negotiate a settlement with the Bodo leadership. To address the potential long-term problems of the population pressures on the reserve, the World Wide Fund for Nature (WWF) and the Ranthambhore Foundation began working with the local communities to improve health care and income generation while minimizing pressure on the Reserve for fodder, fuel, and other subsistence needs. In particular, WWF has initiated an eco-development program which aims to improve all socioeconomic aspects of the local communities and reduce their dependence on the Reserve's resources, making use of environmental education combined with traditional wisdom. This project has involved interviewing three-quarters of the local villagers to assess their problems and needs.

The change in leadership has improved the Reserve management and enforcement and restored staff morale. However, a political settlement with the Bodo leadership has yet to be reached. No definitive results have come out of the eco-development program as it is still in the initial stages.

## CASE STUDY 21

# Armed Conflict and Protected Areas in Rwanda, Uganda, and Zaire

J. P. d'Huart

**This case illustrates several possible approaches for anticipating and responding to armed conflicts involving protected areas.**

In the last 30 years, numerous conflicts in the Central African nations of Rwanda, Uganda, and Zaire have had very important impacts on the wealth and maintenance of many of the region's protected areas. These conflicts have ranged from civil war and rebellions to tribal wars and revolution, but whatever their nature, their consequences have tended to be diverse and persistent. Disintegration of protected area management and enforcement systems are among the most prevalent consequences.

### *The Consequences of Armed Conflicts:*

When conflicts erupt, protected areas, particularly those which are difficult to access (densely forested or at high elevation) often serve as refuges for rebels. They provide outlaws with hiding spaces for their men, belongings, and munitions. Often these men are served by local poachers who act as guides in unfamiliar territory. During conflicts, protected areas often come under political fire from their opponents as well as military fire. Their detractors profit from the instability to rally supporters. They emphasize the population pressure and increasing scarcity of resources outside the protected area and often encourage local communities to move back onto protected area land, often the population's ancestral terrain.

Certain animal populations suffer directly or indirectly as animal massacres, whether by poachers, rebels, or the army, are among the most devastating consequences. Elephants and rhinoceros have been targeted in particular due to their trophy and ivory values. Protected areas which are contiguous along both sides of an international boarder fulfil their role as a buffer permitting the temporary migration of certain species across the conflict borders, as was the case of elephants moving from Uganda to Zaire. Other impacts frequently seen include forest and savannah fires,

destruction of infrastructure, and theft of materials. One of the greatest fears for a protected area caught in a conflict is that the protected area will veritably be held hostage and that its resources would be menaced by 'ecocide' to create pressure on the authorities, or ransacked in revenge.

Almost as soon as a conflict erupts, tourism in affected protected areas ceases. Protected areas that depend largely on tourism to maintain a functioning budget are catastrophically effected. Paying employees and financing their activities becomes impossible. Only loyalty and motivation remain to sustain them. Materials for projects are often commandeered by belligerents. Internationally, the confidence of foreign investors is severely affected. Resumption of tourism may take years, as was the case at Queen Elizabeth National Park and Murchison Falls National Park in Uganda.

In countries whose protected areas are massively underwritten by international aid, the outbreak of conflict creates a whole new group of parameters for consideration. Diplomatic relations between the countries, as well as safety of foreign agents must be considered by bilateral and multilateral agencies, who often decide to suspend their efforts in the midst of projects. NGOs are also severely impacted, and may cease operating in a conflict zone.

#### *Possible Preventative Strategies:*

The history of conflicts in Central Africa has shown that in the many critical moments the motivation and discipline of the personnel is what counts most. In times of conflict, respect for the protected area matter much less than the bravery of the wardens. In Zaire, before the political events of 1960, the Virunga National Park (at the time Albert National Park) was the object of diverse attacks: initial invasions by local populations, illegal fishing, massacres of animals, lack of discipline on the part of the guards, etc. The situation could not have been saved by the army or the politicians. Only the courageous men of the Institute of Parks were effective. The training, salary levels, quality of equipment, and the worth of their superiors are the key elements which will determine the attitude personnel will choose in times of trouble. Their potential role in internal poaching problems, collusion with poachers, and laxness vis-à-vis the local population is immense and can decide the fate of the protected area.

The author suggests specific preventative strategies that might be utilized. Among them are:

- improving training and development of park personnel to develop loyalty and motivation;

- improving salary levels and quality of equipment to create incentives;
- involving the community in decisionmaking and implementation efforts in the park;
- developing a collaborative relationship between park authorities and the military for protection;
- launching park education and information-dissemination programs to promote the park's image as patrimonial heritage; and
- avoiding alarmist reports from protected areas, which can be helpful in generating aid for the area, but can also be dangerously misleading in sensationalist media.

He also suggests protection measures in time of armed conflict which might include the possible intervention of neutral, United Nations troops in endangered protected areas; establishment of a special fund for protected areas to provide for rapid rebuilding after a conflict; briefing and disciplining of United Nations troops and any international peace forces regarding the need to respect protected areas and their wildlife; and establishment of a protected area patronage system.

These strategies have not been applied in any systematic way, but the case study author believes they could have helped protect the protected areas in this area had they been instituted prior to the armed conflict.



# CASE STUDY 22

## Battle Over the Danube Wetlands: Austria's "Mini-Amazon"

Bernd Lotsch

**This case illustrates that a conservation NGO can be instrumental in a conflict over development of a sensitive natural area, and how an NGO might help create a new park.**

In a section of the Danube wetlands near Hamburg, Austria, located between Vienna, Austria and the Czechoslovakian border, controversy erupted following publicity of a proposal to build a hydropower dam on that site. Annual floods of the Danube have given rise to a maze of islands, gravel and sand banks, rivulets and streams, still waters and flooded forests, steep erosion banks, and swampy flats. This diversity of biotypes has endowed the Danube wetlands with an abundance of life, pioneer habitats, and successions of forest communities unrivalled anywhere in Central Europe. The Danube wetlands are home to an estimated 5,000 animal species including 217 vertebrate species (41 mammalian species, 109 different breeding birds, 8 reptile, and 12 amphibian species as well as 47 different types of fish). Forty-six percent of the breeding birds under threat in Austria are denizens of the wetlands along the Danube and March (Morava) rivers. One of the species listed as extinct, the white-tailed sea eagle (*Haliaeetus albicilla*), the famous heraldic bird, has returned in recent years trying to breed in the area once more. Recent scientific research has furnished evidence that bank-filtered water from the groundwater reserves of river forests has become the most important source of clean, unpolluted drinking water in low-lying areas.

Conservation NGOs in Austria have staunchly opposed the construction of the dam based on their concerns that the development would result in the loss of numerous vertebrate species in the wetlands and other environmental damage. The conflict escalated when the electricity utilities started to clear several square kilometres of the unique Hainburg wetland. Thousands of conservationists occupied the site, camped out in the icy wetlands, and resisted the police forces. Nobel laureate Konrad Lorenz sent daily messages for the protesters to remain non-violent.

Finally, in the midst of the deadlocked situation in the frozen forest (December 1984 to January 1985), the Federal Chancellor proclaimed a "Christmas peace." Lorenz and his friends undertook a difficult negotiation with the government. As a result of a historic peace pact between the Nobel laureate and the Chancellor, the conservationists were afforded an opportunity to investigate alternatives, even though powerful trade unionists and industrial leaders still wanted to see dams built in the wetland forest. The peace pact also led to the founding of the National Park Institute, an NGO dedicated to furthering the creation of a National Park on the Danube wetlands site in accordance with IUCN regulations. Following a suit by the World Wildlife Fund (WWF), a Supreme Court ruling declared in January 1985 the dam project to be against the law on the grounds that the impact of the dam on the drinking water resources had not been sufficiently clarified.

In 1989, the National Park Institute initiated the purchase of a strategic 4.1 square kilometres of wetland forest to prevent the land from being bought by the electricity utilities. A nation-wide campaign together with the WWF Austria took in a net eight million US dollars within one year (the Buy-o-sphere concept). Prominent artists and film stars participated in a television show that helped collect the remaining 2.6 million US dollars in one night.

Saving the Danube river also has a scientific dimension that could be of practical interest for similar cases all over the world and that further demonstrates the key role that NGOs can play in a conflict situation. By commissioning well-known river engineers, the National Park Institute and the Ecology Commission proposed a new method to prevent the further erosion of the Danube. The river bed consists of gravel moving downstream. Dams halting gravel movement cause erosion downstream, thus lowering water levels by about 20 cm per decade. This process, caused in fact by dams upstream, had been used as a political argument by those wanting to dam up even the last free flowing river stretch to help stop further erosion. The new method would stabilize the bed of the open Danube by adding a cover of coarse gravel that would resist even heavy flooding. This has been tested in model experiments at the Technical University, Vienna.

Politicians however are still undecided whether to save an ecosystem for a future national park or to build hydroelectric power dams. The struggle continues.

# CASE STUDY 23

## Political Conflicts and the Protected Areas: Republic of Ecuador

Neptali A. Bonifaz

**This case illustrates how NGOs may be helpful in applying pressure on a government to improve institutional and legal protection of a country's parks.**

NGOs in Ecuador have been applying pressure on the government to take stronger legislative and administrative actions in support of Ecuador's protected areas. The National System of Protected Areas of Ecuador includes six national parks, three ecological reserves, three reserves for faunal protection, two recreational areas, one geo-botanical reserve, and one biological reserve. Some of the problems that have plagued the protected areas system include the inadequate enforcement of park regulations due to poor training of park guards; the conflicting dual mandate of the Subsecretary of Forestry and Natural Resources of the Ministry of Agriculture (MAG) to oversee conservation efforts while facilitating development and resource extraction activities; and degradation of protected area resources from road constructions for oil activities and colonization pressures.

Several NGOs launched a political campaign to separate the protected area conservation mandate from MAG's responsibilities and to designate an independent, autonomous entity to take responsibility for the protected areas instead. Some improvements in the protection provisions for the Galapagos Islands were noted over time due to institutional arrangements and legal protection provisions were made in response to this pressure.

## CASE STUDY 24

# Amboro National Park, Bolivia

Len West

Local contacts: Hermes Justiniano, Executive Director or

Abel Castillo, Project Manager Project Director

Fundación Amigos de la Naturaleza

**This case illustrates how a range of activities by an NGO can build support for a park and help with enforcement of conservation objectives.**

The Amboro National Park occupies a unique ecological transition zone in Bolivia with biological and hydrological importance. Faced with increasing conflict and degradation of the Park resources, the principal environmental NGO working in the area, Fundación Amigos de la Naturaleza (Friends of Nature or FAN), launched several initiatives aimed at improving the protection of the Park while addressing local communities development concerns.

With seed money from the U.S. Agency for International Development and The Nature Conservancy JNQ through TNC's Parks in Peril program, FAN initially focused on bolstering the Park's enforcement system by hiring and training dedicated and capable personnel, purchasing equipment necessary for a strong enforcement presence, and carrying out extension activities with groups in the area. In spite of a history of confrontations and misunderstandings between government agencies and local people which impeded initial efforts, FAN was able to gain support from certain local rural groups and other key local people. This was accomplished by carrying out intense public relations campaigns with local communities, focusing principally on how sustainable agricultural and forestry practices bring real benefits to local communities through enhanced water quality and quantity, and soil conservation. FAN officials emphasized that each community was dependent on others and that participating NGOs and government agencies were anxious to work with these communities to establish compatible methods for enhancing both resource conservation and protection. As a result, FAN succeeded in

gaining an audience with then President Paz Zamora which resulted in national recognition of the area and a significant increase in the size of the Park.

In addition, FAN was able to elicit the help of the U.S. Peace Corps to establish a native tree planting program in local schools surrounding the Park. Local efforts, involving both children and their parents to replant trees on denuded hillsides near communities have proven to be an effective environmental education strategy. Furthermore, FAN has sought to improve the relationship between Park guards and local people by having guards work regularly with two Catholic parishes that fully support the conservation goals of the Park. The parishes have not only incorporated conservation objectives in their sermons, but also provide housing and food to the Park personnel.

## CASE STUDY 25

# Advocacy Planning for Yosemite: Non-Governmental Initiatives to Resolve Conflict and Stimulate Governmental Action on Alternative Transit

Steven Whitney

**This case illustrates an NGO's role in addressing a conflict by initiating and conducting a participatory planning process to develop a solution to the conflict.**

The steady rise of tourism in Yosemite National Park in California, in the United States, has led to the increasing degeneration of the Park's environment. The direct impacts on the environment are a result of increasing numbers of visitors, use of private automobiles to access the Park, development of hotels and retail outlets, and illegal wildlife harvest. There has been a great deal of controversy focused particularly on transportation within the Park, with some groups advocating for restrictions on automobiles and others advocating for unimpeded access to the Park by private vehicles. The General Management Plan for the park, adopted by the National Park Service in 1980, calls for reductions in automobile use throughout the park and eventual elimination of automobiles from the heavily used Yosemite Valley. However, after twelve years, no action to implement this part of the Plan had been taken. At the initiation of The Wilderness Society (TWS), an environmental NGO, an "advocacy planning process" was conducted to develop a credible, alternative transit plan for Yosemite National Park in hopes of alleviating the damaging impacts of large numbers of private vehicles in the Park.

The transit planning process, which involved input from the full spectrum of affected interest groups, involved the following steps:

- selection of a core planning team involving technical experts with strong credentials;
- data collection and analysis;

- briefings for key decision-makers within the National Park Service regarding the objectives and plans of the transit planning process;
- a five-day Planning Workshop early in the project to bring together representatives of major constituent groups and government entities in order to collaboratively develop a range of alternative responses to the transportation management for the Park;
- preparation of a transportation plan; and
- plans for public release of the project report following a series of briefings conducted for the U.S. National Park Service, key members of Congress, local government officials, and other NGOs.

The project had the effect of increasing the attention paid by the National Park Service and surrounding jurisdictions to transportation issues, to help define the range of alternatives that should be considered by the National Park Service, and to tangible steps toward meeting the transportation goals of the 1980 park management plan.

Specifically, as a result of TWS's project and the publicity it received, in 1991, the U.S. Congress funded governmental transportation planning at three parks, including Yosemite. Consultants were hired by the National Park Service to conduct this planning, and the consultants utilized TWS's report in their work. Based on this consultant work, the National Park Service proceeded with formal consideration of alternative courses of action, including actions recommended by TWS.

This "advocacy planning" effort was successful in meeting the goals of the project, (i.e., detailing alternative courses of action to manage transit and protect the Park's resources). It also was successful in helping create and shape the political debate about implementation of Yosemite's General Management Plan and the need to move forward with a transportation system for the Park.

Keys to the project's success included the willingness of the National Park Service to cooperate in the NGO effort, the assembly of a highly skilled and respected NGO planning team to give the effort credibility, and the early involvement of a wide variety of stakeholders in establishing the overall framework and scope of the study. The Planning Workshop was particularly important in this regard.

## CASE STUDY 26

# Cooperative Activities in Protected Areas Between NGOs and Local Communities: Soberania, Chagres, and Darien National Park, Panama

Len West

Local contacts: Raul Fletcher, Sub-Director of Conservation and Science,  
or  
Graciela Palacios, CDC Coordinator

**This case illustrates collaboration between an NGO and a government agency to build support for a park and its conservation objectives and to reduce the likelihood of conflict.**

In the Soberania, Chagres, and Darien National Parks in Panama, the Panamanian conservation NGO, Asociación Nacional para la Conservación de la Naturaleza (ANCON), has been working jointly with the government agency responsible for natural resource management (INRENARE) on a variety of successful conservation and development projects. In Soberania National Park, the two groups have collaborated in furnishing basic equipment and covering expenses for Park guards and trail improvements. In addition, they have been jointly conducting environmental education for local communities around the Park. As an offshoot of this environmental education program, ANCON has contributed materials and technical support for the building of schools around Chagres National Park and in conducting courses and seminars in nutrition, first aid, and pre-school activities for local people around the Darien National Park.

In addition to these efforts, there have been various community based projects organized by both ANCON and INRENARE. For example, agroforestry projects have been established for communities surrounding the Park to supplement subsistence and income generation. In return, local residents have been providing assistance in posting signs and maintaining trails within the Park. Specific accomplishments include:



In Soberania and Chagres National Parks:

1. In 1992, the Rio Chagres Environmental Education Center was established to provide programs in environmental education, interpretation, and training for Park guards stationed in Soberania National Park.
2. With assistance from the scholarship program of the Human Resources Development and Utilization Institute of Panama, (IFARHU), 100 local community residents in the Panama Canal watershed area have been sponsored to receive theoretical and practical training in tree nursery establishment and management, captive propagation techniques for selected wild animal species, small domestic animal production, and agroforestry.
3. ANCON, INRENARE, and the U.S. Peace Corps have created a cooperative training program with 16 local communities in the Canal Watershed Zone in forest protection and recuperation as well as the establishment of crop alternatives.

In Darien National Park:

1. ANCON recently extended technical assistance in agroforestry, tree nurseries, environmental education, and scientific research to the Patino Natural Reserve which lies adjacent to the Park.
2. Also, through IFARHU, scholarships have been awarded to 75 members of local communities situated around the Park to conduct projects similar to those in Chagres and Soberania.
3. ANCON continues providing support to INRENARE in the Park through patrol work; infrastructure maintenance on guard posts, trails, and roads; Park guard training; environmental education; and scientific research on the Park's ecological processes.

## **CASE STUDY 27**

# **Wood Buffalo National Park: Threats and Possible Solutions for a World Heritage Site**

Kevin McNamee

Designated a World Heritage Site in 1983, Wood Buffalo National Park is Canada's largest National Park (larger than Switzerland) and one of its most threatened. A number of activities outside of the Park's boundaries, including logging, pulp mills, and hydroelectric dams, are endangering the Park's ecological integrity and have resulted in conflicts between development interests, environmentalists, and the native community. In addition, there have been plans, opposed by many groups, to eliminate the Park's diseased bison because of concern that they will infect domestic cattle and other nearby bison herds. Environmentalists are also concerned that clear-cut logging has been permitted in a portion of the Park since the 1950s. There is a lack of research on the potential cumulative impacts of these activities and little coordination between the numerous agencies that have authority in the effected area. The threats underscore the need for regional planning and enhanced science in order to manage the area on an ecosystem basis and to avoid unproductive conflict.

The creation of the Northern Buffalo Management Board in 1991 offered an opportunity to develop a coordinated ecosystem approach for the Park and to iron out differences between competing interest groups. The 17 member Board had a majority of native representatives from each community, and representatives from three different federal agencies, the governments of two provinces, and three non-government representatives from the cattle sector and the Canadian Nature Federation (an environmental NGO active in the area). They were to develop a management program to resolve the diseased bison issue. The Board's terms of reference offered an opportunity to deal with a variety of issues that plagued both the Park ecosystem, and the future of the bison and its habitat within and outside the Park.

The Canadian Nature Federation has offered a number of suggestions to ensure the integrity of the greater Wood Buffalo ecosystem:

- The development of a common vision and set of values shared by all who operate within the greater Park ecosystem that emphasizes the maintenance of natural and cultural resources and the ecological processes that sustain them.
- The development of an enhanced understanding of the interaction and dependency amongst the various components of the ecosystem, and the impact of humans on those components, using both scientific and the traditional knowledge of native people.
- The consolidation and expansion of scientific and cultural research for the purpose of developing a common information base accessible to governments, industry, environmentalists, and native people. The information base should identify areas of particular ecological and cultural value.
- The federal government should provide the Canadian Park Service with the mandate and the resources to participate in all planning forums, environmental assessment panels, and other land use programs to identify lands outside parks that are critical to its survival and to preserving biodiversity.
- The federal government should better communicate the World Heritage Site values of the Park to the various governments and communities in and around the greater Wood Buffalo ecosystem, and should better understand and adhere to its commitments under the World Heritage Convention.

The Board did adopt a common vision that was shared by those representatives on the board who operate within the greater Wood Buffalo National Park. It is worth noting one part of the vision statement: "The integrity of the ecosystem that supports northern buffalo in Wood Buffalo National Park and the surrounding region will be maintained." This vision statement addresses the first two points outlined above by the Canadian Nature Federation.

The Board was helpful in a number of ways. First, it brought together for a year and a half the different players and perspectives operating within the ecosystem, broadening each person's perspective. Second, it produced a report that emphasized a need to use scientific and traditional knowledge to understand the whole ecosystem and to take action on all threats to the ecosystem. As a result, it moved the whole program away from what the government had wanted, a simple focus on eradicating the bison.

In April 1995 the federal government finally responded to the

recommendations of the 1990 report of the Northern Diseased Bison Environmental Assessment Panel (the Panel), and the 1993 report of the Board. In short, the federal government rejected the Panel's recommendation that all diseased bison be eradicated and replaced by healthy wood bison. After reviewing the public rejection of the Panel's recommendation, and the report of the Board, the government concluded that the risk of disease transmission was not as serious as first thought, and that elimination of the diseased bison was no longer essential to agricultural interests. It also concluded that something other than disease was causing a decline in bison on the southern area of the park. The diseased bison population in the northern part of the park has remained stable. The government also rejected the need for bison control within the National Park as inappropriate and counter to the goals and objectives of the Park.

A number of actions were announced by the government. It will maintain a buffer zone between the Park and the disease free herd in the Mackenzie Bison Sanctuary to the north. It will fund a five-year program of research on bison ecology to learn more about the effects of predators, disease, and habitat change on the population dynamics and sustainability of Park bison. The findings of this research, along with existing information, will be used to develop a long-term bison management program to control or eliminate the disease.

In the end, the position taken by the Canadian Nature Federation and other conservation groups during the hearings of the Panel was found to be credible. Both public outrage over the suggestion that the world's largest free-roaming herd of bison be eliminated, and the demand by native people in the region that they be central to any decisionmaking process, forced the government to adopt a new approach to the issue; hence the creation of the Northern Buffalo Management Board, which ensured a more open, comprehensive, and thoughtful review of the issue.

Once outside the glare of the media, the calls of the cattle industry to eliminate the diseased bison dimmed as they sat down with environmentalists and native people, and more thoughtfully reviewed the science behind the issue. This reaffirmed the important role that the multistakeholder process had in reducing and managing the conflict that plagued the early days of this issue.

Finally, the Panel's recommendation to eliminate the existing herd and to re-populate the park with healthy bison also crumbled under the government's deteriorating financial picture. The federal cabinet had set aside about \$30 million for this project. Clearly, the government became less interested in spending money on an initiative that enjoyed no public support, and that was seriously questioned by the findings of the Board.

In a separate initiative, the governments of Canada and Alberta, B.C. Hydro, and several indigenous groups signed a Memorandum of Understanding in April 1993 in support of a three year program of technical studies relating to ecosystem management of the Peace-Athabasca Delta. The goal is "to understand available options and select the most suitable remediation strategy for restoring the role of water in the Peace-Athabasca Delta." This is an important multi- stakeholder undertaking, bringing together the various government, industry, and First Nation people who are affected by and who have caused serious impacts on this critical freshwater delta.

In short, there has been good progress made, with two forums bringing people together to understand issues of concern and plot a solution. It happened in part, because the environmental community raised strong objections to the government proposal to eradicate the bison herd; used science and public relations to raise the point that the government did not have good science, and was ignoring the impact of an upstream dam on bison habitat and the future of First Nations; used the threat of listing the area as a World Heritage Site in Danger to force action in the face of international embarrassment; was able to generate comments by the World Heritage Committee that they were concerned about the health of the Park and; worked within the available multi- stakeholder forum to both ensure the terms of reference and the debate focused on the broader issues of concern, namely the health of the broader ecosystem.

Finally, the Canadian Parks and Wilderness Society and the Sierra Legal Defence Fund were successful in their court action over clear-cut logging. The government agreed with them that the logging was contrary to the National Parks Act and the logging was halted for good.

## CASE STUDY 28

# Conflict Resolution and the Heritage Resources Centre University of Waterloo, Ontario, Canada

Gordon Nelson and Rafal Serafin

**This case illustrates how universities and related higher educational institutions can contribute to conflict resolution by providing useful information in settings where conflict can be addressed in non-adversarial ways.**

The Heritage Resources Centre (HRC) at the University of Waterloo was established in 1986 after several years of operation as a program jointly supported by the University and the Canadian National Parks Service. The HRC takes a very wide view of the meaning of heritage. The word "heritage" is used in a broad sense involving both natural and cultural heritage. The Centre's activities encompass geological, biological, archaeological, cultural, historical, marine, and geographical aspects of heritage as well as policies and institutions for heritage planning and management. The term goes beyond these more tangible things as well, to include the ideas, beliefs, and ways of life that people value and use when faced with change. Working in this broad context the HRC has become increasingly involved in conflict situations and their resolution.

The HRC has become involved in conflict resolution in two basic ways: 1) the provision of information; and 2) providing a place or a context where the proponents of different interests and points of view can agree to meet without feeling unduly threatened and try to work out their differences.

The kind of information that the HRC provides is usually wide-ranging and comprehensive, reflecting similarities and differences in knowledge, ideas, and perspectives, so people can see what has been said or written and what is known, as fully as possible. The aim is to provide the whole picture so that everything is on the table and can be discussed. The HRC provides this information in various ways, including annotated bibliographies or problem assessments based on review of available

publications and other sources of information. The HRC also frequently employs assessments to map and describe land use or other conflicts in broad terms, where this includes geologic, biological, land use, cultural, economic, institutional, and other information. The method that is frequently used to do this is known as the ABC resource survey or assessment system. The results are made available to all parties so they can evaluate the situation as a basis for discussion. Other ways in which the HRC provides information is by organizing meetings of various kinds depending on the circumstances, including informal discussion, round tables, workshops, seminars, and conferences.

This leads to the second major role that the HRC plays in conflict resolution. As a result of its being part of a public university, HRC sees itself as having the responsibility for providing open or equitable access to information for all concerned parties. It provides a platform for learning through research and analysis or synthesis of existing information. In this respect HRC does not get involved in any private negotiations or meetings. That is left to other agencies or groups in order to maintain the HRC role as an open meeting place for exchange of information in order to gain improved understanding as a basis for agreement. Members of HRC may individually become involved in mediation or other roles but not as representatives of HRC. Another way in which HRC contributes to conflict resolution is by publishing reports on its work so that its experiences are available to others.

In its work, HRC has been involved in many conflict situations relating to protected areas, including those involving indigenous people and northern parks, conflicts over land use and conservation in the Toronto area (Frenchman's Bay), planning for land use, protected areas in the Saugeen area, Lake Huron and also in the Long Point area, Lake Erie, as well as planning for the Grand as a Canadian Heritage River, Ontario. The HRC has also become involved in international studies, meetings, and research relating to conflict resolution, for example in the Broads area, U.K., and Poland. Another way in which HRC contributes to conflict resolution is by publishing reports on its work so that its experiences are available to others. In general, the HRC case illustrates the way in which universities and similar institutions can be used to contribute to conflict resolution in relation to protected areas and other conservation and development issues in various parts of the world.

## CASE STUDY 29

# Conservation Attitudes of Local People in Tanzania and their Conflict with Wildlife

William D. Newmark

**This case study illustrates how even informal dialogue between protected area managers and local people may be useful in breaking down mistrust that local people have of protected area managers. This case study also illustrates how land-use planning adjacent to protected areas may reduce the conflict between local people and wildlife in Africa.**

Most of the serious problems facing protected areas in Africa today contain a human component. Among the more common problems are human encroachment, unauthorized harvesting of resources, and the conflict between wildlife and local people. Students and faculty from the College of African Wildlife Management, Mweka, conducted an extensive survey in Tanzania of the attitudes of local people towards protected areas, protected area managers, poaching, and the interaction of local people with adjacent protected areas. Nearly 1400 individuals living adjacent to six protected areas in Tanzania were surveyed between August 1987 and August 1989.

Contrary to popular belief, local people in Tanzania strongly support the establishment of adjacent protected areas. Over 70% of the individuals surveyed are opposed to the suggested abolishment of the adjacent protected area. However, a nearly identical proportion hold negative or neutral attitudes towards protected area managers. Local people generally do not associate any of the positive features which they perceive as being associated with the adjacent protected area (the generation of revenue and the protection of wildlife) with the managerial activities of the protected area employees.

Local people who report that someone from the adjacent protected area has visited their village are more likely to hold positive attitudes towards protected area managers. This strongly suggests that even informal



dialogue between protected area managers and local people can be useful in breaking down the mistrust that local people have of protected area managers.

One of the most serious types of conflict local people have with protected areas involves wildlife. Over two thirds of all local people report problems with wildlife. The destruction of crops and the killing of livestock and poultry are the most frequently reported problems. Local people who report problems with wildlife are more likely to support the suggested abolishment of the adjacent protected area and are more likely to hold negative or neutral attitudes towards protected area managers.

The conflict between wildlife and local people appears to be strongly moderated by human population density. Local people living at low human population densities are more likely to report problems with wildlife than individuals living at high human population densities. However, the ineffectiveness of local people in controlling wildlife is highest at both low and high human population densities; that is local people are more effective at controlling wildlife because the problematic species tend to be small (primarily rodents, monkeys, and birds). Such species have high intrinsic rates of growth, prefer human-modified habitats, and therefore are resilient in response to low human disturbance. Conversely, local people living at low human densities appear to be less effective in controlling wildlife because the problematic species tend to be large and are capable of causing considerable damage during a short period of time. Local people are probably less effective in controlling wildlife at low human densities because the wildlife control techniques employed by local people are generally labour intensive and therefore local people are less able to control wildlife over a large area.

These results suggest that the most effective means of reducing the conflict between local people and wildlife is through land-use planning adjacent to protected areas. Agricultural activities associated with high human density should be discouraged on lands adjacent to protected areas. In areas of low human density, land-use activities that are non-attractive to wildlife should be encouraged.

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## Glossary

**Arbitration:** Use of a neutral third party to recommend a decision to the stakeholders. Binding arbitration involves an agreement from the stakeholders at the outset that they will abide by the decision that is offered by the arbitrator. Non-binding arbitration means that the stakeholders have the option of accepting the arbitrator's decision or not.

**Conflict:** The term conflict can be understood as any situation in which there is a clash of interests and in which the groups whose interests are at stake are quarrelling over how to meet their respective interests. In the protected area context, it usually suggests that there is a group or groups whose interests are in opposition to those of the protected area. The conflict can manifest itself in overt struggle, involving illegal activity, arms and fighting, or it may be manifested as a debate among the stakeholders, perhaps in the press or in a courtroom.

**Interest:** People's fundamental needs and concerns.

**Lami:** Working as a catalyst to bring together resources from the outside to meet the needs of the local people (Nepal).

**Lanches:** Boats used by the Imraguen people of Mauritania.

**Mediation:** Using a neutral, third party to help the stakeholders resolve the conflict.

**Position:** The proposals that are put forward to try to satisfy interests.

**Shingi nawa:** A system of forest management regulated by local communities in Nepal.

**Stakeholders:** Those individuals or groups who are directly involved in the conflict, or who may be affected by how the conflict is resolved.

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## **Acronyms**

ACA	- Annapurna Conservation Area
ACAP	- Annapurna Conservation Area Project
ANCON	- Asociación Nacional para la Conservación de la Naturaleza
CDC	- Conservation and Development Committee
DENR	- Department of Environment and Natural Resources
FAN	- Fundación Amigos de la Naturaleza or Friends of Nature
FIBA	- International Foundation of the Bane D'Arguin
HRC	- Heritage Resources Centre
IFARHU	- Human Resources Development and Utilization Institute of Panama
INRENARE	- the Panamanian government agency responsible for natural resource management
IUCN	- International Union for Conservation of Nature and Natural Resources
MAG	- Ministry of Agriculture
NGO	- Non-governmental organization
SMC	- Shemberg Marketing Corporation
STPS	- Sea Turtle Protection Society of Greece
TNC	- The Nature Conservancy
TWS	- The Wilderness Society
UNALM	- Department of Forestry Management at the National Agrarian University La Molina
UNESCO	- United Nations Educational, Scientific, and Cultural Organization
WWF	- World Wide Fund For Nature