

# **A Guide to Undertaking Biodiversity Legal and Institutional Profiles**

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**In memory of Mohiuddin Farooque**

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## Editorial Note

The purpose of *A Guide to Undertaking Biodiversity Legal and Institutional Profiles* is to emphasise the central importance of reviewing laws and institutions as part of a country's biodiversity planning process. It is designed as a source-book of practical "how-to" information for planners and lawyers. A possible framework for establishing and evaluating a knowledge base of laws and institutions relevant to biological diversity is suggested. Background information on subjects relevant to the profile process and possible considerations for undertaking a profile are provided.

This publication is designed to supplement IUCN's *A Guide to the Convention on Biological Diversity* (Glowka, *et al.*, 1994), *National Biodiversity Planning: Guidelines Based on Early Experiences Around the World* (Miller and Lanou, 1995), co-published by WRI, UNEP and IUCN, as well as UNEP's *Guidelines for Country Studies on Biological Diversity* (1993). It draws on lessons learned from one component of a four year IUCN Environmental Law Centre project to provide technical legal assistance to implement the Convention on Biological Diversity. The overall project, which commenced in 1994, was funded by the German Bundesministerium für Wirtschaftliche Zusammenarbeit (BMZ). Additional funds for this publication were also provided by the Dutch Ministry of Development Cooperation.

The primary purpose of the legal profiles component of the project was to describe the legal and institutional systems of three countries as they related to the issues raised by the Convention on Biological Diversity. The scope of the work included the terrestrial, aquatic and marine environments. The Convention's obligations were used as the broad framework for analysis.

Another purpose of the profiles project was to test the possibility of developing a generally applicable set of guidelines, in the form of a "how-to" guide, to support the Convention's implementation by Contracting Parties as they undertook biodiversity strategies and action plans pursuant to article 6 (General Conservation Measures for Conservation and Sustainable Use).

During 1996, the governments of Bangladesh, Cuba and The Gambia requested IUCN Environmental Law Centre (IUCN-ELC) technical legal assistance in preparing biodiversity legal and institutional profiles. A draft analytical format was created to assist three IUCN legal consultants chosen to undertake the work.

A final analytical format was created and reflected discussions held at the IUCN-ELC, in Bonn, on 23 March 1996 during the first meeting with the legal consultants. The consultants for the project were Dr. Mohiuddin Farooque, Secretary General, Bangladesh Environmental Lawyers Association, Dhaka, Bangladesh, Dr. Orlando Ernesto Rey Santos, Direccion de Politica Ambiental, Havana, Cuba and Dr. Lothar Gündling, Heidelberg, Germany, who was assisted by Ms. Janet Ramatoulie Salle-Njie, Ministry of Justice, Banjul, The Gambia.

The participants met for a second time in Montreal on 19 October 1996 during IUCN's first World Conservation Congress. The purpose of the second meeting was to comment on the draft country reports, share experiences on each consultant's undertaking and draw lessons learned. To facilitate this discussion and determine the technical feasibility of developing the analytical format into guidelines to assist other practitioners, a set of questions was developed for the consultants by IUCN-ELC.

The consultants were asked to consider: (1) what a guidance manual on this issue should say; (2) whether the analytical format was useful and how specifically it might be improved; (3) what problems each encountered undertaking the profile, in particular, difficulties obtaining materials or even creating/organising the report; (4) what turned out to be easier than each expected; (5) what each would

recommend to others if they wanted to undertake a profile especially in terms of organising their approach, research, compilation and/or analysis of the materials; (6) what the qualitative and quantitative advantages and disadvantages are for a government employee, an NGO representative and an outside consultant in undertaking a profile; (7) what the value of undertaking a profile is; and (8) any other points each thought might be important. Lessons learned from the experiences of the three consultants have been integrated throughout this publication.

This publication has also benefited from work IUCN-ELC undertook in mid-1998 on behalf of the Bureau to the Convention on Wetlands of International Importance to develop technical guidelines for reviewing laws and institutions relevant to wetlands. A two-day technical consultation was organised to review a draft methodology (*Technical Guidelines for Reviewing Laws and Institutions to Promote the Conservation and Wise Use of Wetlands*) and background paper prepared by Clare Shine a legal consultant and a member of IUCN's Commission on Environmental Law. The documents were subsequently revised and submitted to the Convention's Standing Committee in October 1998 as an annex to a draft resolution for the upcoming seventh meeting of the Conference of Parties in May 1999. Participants from Australia, Cameroon, Canada, Costa Rica, India, the Netherlands, Peru, Slovenia and Uganda presented case studies and shared their experiences for reviewing laws and institutions in their respective countries.

## Foreword

Article 6 of the Convention on Biological Diversity (General Measures for Conservation and Sustainable Use) may be one of its most far-reaching articles. Its two obligations (1) developing national biodiversity strategies, plans or programmes or adapting existing ones and (2) integrating conservation of biological diversity and the sustainable use of its components into relevant sectoral and cross-sectoral plans, programmes and policies are critical steps through which Parties will organise and implement their approach to conservation and sustainable use. This is because fulfilling almost every substantive obligation in the Convention on Biological Diversity requires planning.

Recognising this, in 1995 IUCN co-operated with the World Resources Institute and the United Nations Environment Programme to publish *National Biodiversity Planning: Guidelines Based on Early Experiences Around the World* (Miller and Lanou, 1995). Its commentary and case studies demonstrated that biodiversity planning is central to every Contracting Party's strategic approach to implementing the Convention on Biological Diversity. The book was subsequently recognised by the Conference of Parties to the Convention at its second meeting. Contracting Parties were encouraged to use guidelines such as *National Biodiversity Planning* to prepare and implement their national biodiversity strategies. Anticipating the need for each Convention Party to carefully consider law and institutions in their biodiversity planning processes, IUCN presents *A Guide to Undertaking Biodiversity Legal and Institutional Profiles*.

*A Guide to Undertaking Biodiversity Legal and Institutional Profiles* is the culmination of over two years of work by the IUCN Environmental Law Centre (IUCN-ELC). It is the second in a series of publications aimed at supplementing IUCN's *A Guide to the Convention on Biological Diversity* (Glowka, *et al.*, 1994). This book is also intended to supplement *National Biodiversity Planning* and UNEP's *Guidelines for Country Studies on Biological Diversity*. It represents another example of IUCN's continuing commitment to assist the Parties as they implement the Convention on Biological Diversity.

This new guide combines lessons learned in the field with desk-based research and comparative analysis of existing legal and institutional reviews and planning documents. The primary aim of the *Profiles Guide* is two-fold. First, it is designed to emphasise the central importance of reviewing laws and institutions in national or sub-national biodiversity planning processes. Second, it is designed as a source-book of practical "how-to" advice to planners and lawyers, while providing a general understanding of the scope of undertaking a biodiversity legal and institutional profile. We hope this guide will be useful to all people interested in implementing article 6 of the Convention, as well as those generally interested in the Convention itself.

*A Guide to Undertaking Biodiversity Legal and Institutional Profiles* is a publication of the IUCN Environmental Law Programme. We are very grateful to the German Bundesministerium für Wirtschaftliche Zusammenarbeit (BMZ), for generously providing the financial support which made the entire four year project possible, and to the Dutch Ministry of Development Cooperation for its support to this publication.

*Françoise Burhenne-Guilmin*  
Head, IUCN Environmental Law Centre  
Bonn, Germany

## Acknowledgements

*A Guide to Undertaking Biodiversity Legal and Institutional Profiles* is the product of a process which started in late 1995.

The process accelerated when I met Clare Shine, who I had the pleasure of working with on a project that I managed on behalf of the Ramsar Bureau. Our task was to develop a methodology for reviewing laws and institutions relevant to wetlands conservation and wise use. Her ideas, and our intense, sometimes heated, discussions in mid-1998 over trying to make a clear and concise set of guidelines for Ramsar Parties to adopt, helped me a great deal to revise an earlier draft of this publication.

Five sections and two figures in the *Legal Profiles Guide* draw directly from Clare's work and our discussions. They have been either taken verbatim or further adapted by me. These are sections 2.0 and 6.0, as well as the introductions to sections 3.0, 4.0 and 5.0. Figures 1 and 2 were also originally conceptualised by Clare.

I would like to thank my collaborators Orlando Rey Santos and Lothar Gündling for their hard work in putting together the original biodiversity legal and institutional profiles for the project and for their ideas on this publication. Thank you also to Orlando for providing me with extensive comments, in English, on an earlier draft of this text.

I am very sorry that the late Mohiuddin Farooque did not see the culmination of his work on our project reflected in this publication. While working with him on this project I gained a deep respect for the courage, energy and strength which characterised his life professionally and personally.

D.B. Ogolla, Legal Officer, United Nations Environment Programme, Environmental Law and Institutions Programme Activity Centre, also provided thoughtful written comments on earlier drafts of the publication.

Michael Schatzschneider, at the IUCN Environmental Law Centre, has provided tireless support with the seemingly endless revision of the commentary and figures for the *Legal Profiles Guide* and the Ramsar project. Ulrike Deuschel, formerly of the ELC, also provided tireless support in 1997 revising the legal and institutional profiles for the three countries studied.

Ann DeVoy, at the ELC, provided me with invaluable editorial comments.

As always, Barbara Weiner worked closely with me on the layout for this publication.

Finally, I would like to extend my deep appreciation to Françoise Burhenne-Guilmin, outgoing Head of the IUCN Environmental Law Centre, with whom I have worked in a variety of situations since 1991. She has supported me in whatever I have done during my tenure at IUCN. Some of the most inspiring moments for me at the ELC have been sitting with Françoise and going over her comments to this and a number of my other publications. I have never failed to be impressed by her professionalism, analytical skills and her technical knowledge of biodiversity and the law.

My thanks go to all of these people for their assistance with the *Legal Profiles Guide*. I, however, remain responsible for any weaknesses that remain.

Lyle Glowka  
Bonn, Germany  
October 1998

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## 1.0 Introduction

The Convention on Biological Diversity is a global treaty premised on its Contracting Parties fulfilling three objectives:

- conserving biological diversity;
- sustainably using the components of biological diversity; and
- fairly and equitably sharing the benefits arising from the use of genetic resources (article 1).

The Convention provides overall goals and policies for its Parties to implement. Individual Parties determine how the majority of the Convention's provisions will be implemented. The primary focus of action therefore is at the country level and, because every Party's situation is different, each Party will tailor the Convention's implementation to its own unique situation.

Fulfilling almost every substantive obligation in the

Convention on Biological Diversity requires planning, the primary theme of article 6 (General Measures for Conservation and Sustainable Use). Many Convention Parties will fulfil article 6 by initiating biodiversity planning processes: completing biodiversity country studies; undertaking biodiversity strategies and implementing them through biodiversity action plans. In so doing, these Parties will organise and implement their approach to attaining the Convention's three objectives.

Effective laws and institutions will be key mechanisms for attaining the Convention's objectives in every Contracting Party. Therefore, legal and institutional profiles must be undertaken as part of the biodiversity planning process to ascertain which laws apply to and affect biodiversity and which institutions oversee portfolios which intersect with biodiversity conservation and the sustainable use of its components.

### 1.1 Biodiversity Planning: The Context for Biodiversity Legal and Institutional Profiles

Biodiversity planning is a participatory, adaptive process composed of seven steps (Miller and Lanou, 1995):

- (1) getting organised;
- (2) assessment (sometimes called "stocktaking");
- (3) developing a strategy;
- (4) developing a plan of action;
- (5) implementation;
- (6) monitoring and evaluation; and
- (7) reporting (see Figure 1)

Biodiversity legal and institutional profiles, and therefore this *Guide*, are designed for the assessment stage in the biodiversity planning process. The legal component of the assessment stage would collect information to establish a knowledge base or baseline of all laws and institutions in the country relevant to biodiversity.

The profile may take the assessment stage one step beyond simply establishing a baseline "snap-shot" of the current legal and institutional situation in the country. It may also include an analysis of the "on-the-ground" effectiveness of existing measures, including identifying gaps and inconsistencies in legal and institutional coverage (Section 3.0). The profile would also provide recommendations for improving the country's legal and institutional framework with respect to biodiversity.

The strategy step of the biodiversity planning process is for priority setting. Here the responses to particular threats, including responses related to laws and institutions, will be prioritised according to need, as

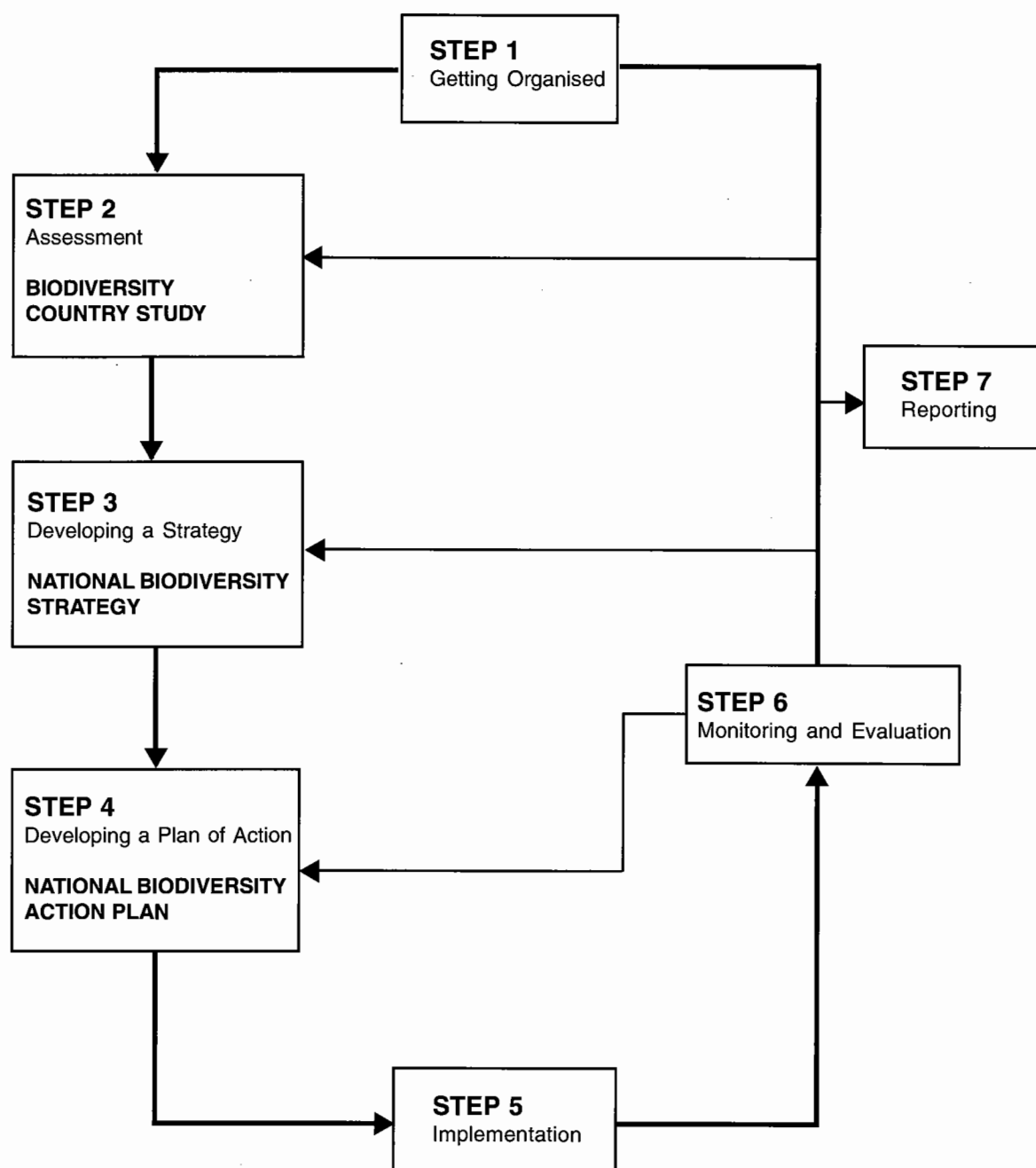
well as the resources available. The recommendations and follow-up activities proposed in the legal and institutional profile (Section 6.0) should be targeted to this stage of the planning process.

The step to develop a plan of action should then identify which institutions will take action and when. Actions may include revising, drafting, enacting and implementing new laws. Other actions may include revising the mandates of existing institutions, eliminating them or creating new institutions. In some situations it may be useful to draw up a separate action plan for legal and institutional measures. The legal and institutional profile will be a likely source of guidance to draw from. An investment programme to support the implementation of the legal action plan could be developed and submitted to donors for funding.

For law, the implementation step and the subsequent monitoring and evaluation step of a biodiversity planning process might respectively (1) launch the action plan's legal and institutional activities, and then, after a period of time, (2) ascertain the on-the-ground effectiveness of implementation. Reporting to sub-national, national or international fora – the final step of the planning process – may be undertaken during any of the six preceding stages.

Monitoring and evaluation provide the basis for a "feed-back loop" where on-the-ground success is judged. Lessons learned are used to fine tune future implementation. The process should be immortalised by legislation to ensure that it continues.

**Figure 1. Basic Steps for Biodiversity Planning and its Relationship to the Planning Tools: A Cyclical and Adaptive Process**



Source: Miller and Lanou, 1995

In fact, while a biodiversity planning process should establish law as a key area to be addressed, law may also be used to facilitate or immortalise the process itself. For example, a new biodiversity planning law may be needed to clarify institutional competencies in the process, in other words, which ministry or agency is to lead, which ministries should participate and how civil society will participate (Section 3.4). Legislation may also be needed to create the legal basis for implementing a strategy or action plan or to immortalise institutionally the biodiversity planning

process as a legally required cycle of activities (Glowka, *et al.*, 1994).

The process for undertaking a legal and institutional profile could have two components. The first component is a preparatory phase (Section 2.0) where, among other things, the approach to undertaking the profile is established. The second component is an execution phase during which the review is actually undertaken (Sections 3.0-6.0).

### **Box 1. Understanding the Concept of Biological Diversity: An Important First Step**

It is important for those undertaking the legal and institutional profile to understand the concept of biological diversity prior to beginning. Armed with an understanding of the nature of biological diversity, the profile team (Section 2.2) will have a better idea of how to prepare for and execute a legal and institutional profile.

Biological diversity is the frequency and variety of life in all its forms, levels and combinations. Rather than describing the totality on Earth of all ecosystems, species and genomes, biological diversity describes the differences within and between them. In other words, biological diversity is an attribute of life, contrasting with the components of biological diversity which are the tangible manifestations of life.

As an attribute of life, biological diversity can only be conserved by conserving and sustainably using its components. Therefore, while the Convention on Biological Diversity defines biological diversity in terms of the frequency and variety of life and the systems in which life exists, by necessity a country's efforts to conserve biological diversity will focus on its tangible manifestations such as ecosystems, populations of species and genetic resources.

The components of biological diversity might be, for example, a seed or the genetic material it contains, an elephant or its tusks, maize growing in a field or a school of fish. Ecosystems, such as a wetland, the watershed of a river, or a biome such as a forest are also components of biological diversity. Agro-ecosystems, and domesticated or cultivated species, are also components of biological diversity.

Biological diversity is most conveniently, but not exclusively, described in terms of three conceptual levels:

- ecosystem diversity: the frequency and variety of different ecosystems;
- species diversity: the frequency and variety of different species; and
- genetic diversity: the frequency and variety of different genes and/or genomes.

Biological diversity is a powerful new unifying concept. In contrast to more traditional sectoral approaches to nature conservation, the biological diversity concept will help managers take a more holistic view of conservation and sustainable use.

Shifting focus to the frequency and variety of life at ecosystem, species and genetic levels emphasises interconnectedness between those levels. For example, species-based approaches for conservation and sustainable use can be strengthened when ecosystem diversity and genetic diversity considerations are factored in.

A larger scale view is also a more inclusive view. For example, traditional approaches to conservation and sustainable use may not have considered the critical role of pollinators or other less charismatic organisms in an ecosystem such as soil biota. Furthermore, the biological diversity concept allows the human dimensions of conservation and sustainable use to be recognised and treated as part of the solution.

In the course of undertaking the legal and institutional profile, it may not be possible to find a single comprehensive biodiversity law. In fact, since the entry into force of the Convention on Biological Diversity, few countries

*continued on the next page*

**Box 1. Understanding the Concept of Biological Diversity: An Important First Step**

*continued from the preceding page*

have contemplated such laws. Instead, most countries have laws which concentrate on species and protected areas. But these laws are a small piece of the larger scale legal and institutional situation in a country which affects biological diversity. This larger view is what the profile team must uncover and evaluate.

## 2.0 Preparing for the Legal and Institutional Profile

### 2.1 Establish Political and Institutional Responsibility for the Profile

The biodiversity planning process is central to implementing the Convention on Biological Diversity and organising a country's approach to biodiversity conservation, sustainable use of its components and benefit-sharing for the use of genetic resources. High-level political support is critical to preparing, implementing and acting upon the strategy and action plan which result from the process (Shine and Glowka, 1998). As important as determining which level of government will undertake the overall biodiversity planning process, a threshold issue is which level of government will be responsible for a legal and institutional profile. This will likely depend on the country's system of government.

Institutional responsibility for the legal and institutional profile may depend on which tier of government has competency for the components of biological diversity, especially in Parties with a federal or decentralised system of government (Shine and Glowka, 1998).

Jurisdiction can be divided between national and sub-national governments; elsewhere it may be completely devolved to sub-national levels, including local governmental authorities.

National Biodiversity Committees, inter-ministerial commissions or other co-ordinating bodies for biodiversity issues may be particularly well-placed to take responsibility for and supervise the biodiversity planning process (Shine and Glowka, 1998). They may also be well placed to commission the legal and institutional profile, while considering and acting upon the subsequent recommendations prepared.

Where primary competence lies at sub-national level it may be useful to harmonise the approach taken through a set of general guiding principles promulgated at the national level (Shine and Glowka, 1998). This would help make the sub-national profiles more comparable and ensure consistency.

### 2.2 Establish the Profile Team

Careful thought must be given to who will undertake a biodiversity legal and institutional profile. Ideally, in-country lawyers should be used whenever possible (see Box 2). The lawyer or lawyers chosen should understand the biodiversity concept (see Box 1).

In most cases, in-country lawyers are best placed to obtain a country's laws and analyse their effectiveness. This is because in-country lawyers could be expected to have a better sense of the country's particular situation, therefore they would be better placed to discover whether a particular law has been implemented effectively in practice. They also should understand their country's legislative process (Section 7.2) and customary practices better than an outside consultant. Furthermore, they are also well-placed to evaluate the institutions of the country.

Another decided advantage of in-country lawyers will be the ability to speak the local language better than

an outside consultant might. This should expand the possibilities for in-depth analysis and communication.

When in-country lawyers are not available, legal experts knowledgeable about the region could be considered. They would be more likely to be familiar with the circumstances of the project country than would international experts from outside the region.

The legal and institutional profile exercise can help develop new, or mobilise existing, legal expertise in the country. This expertise may be then drawn upon throughout the biodiversity planning process or later, for example, to draft new legislation in response to a subsequent biodiversity action plan. Where experts from outside the country are used, it would be useful whenever possible to team them up with an in-country lawyer interested in environmental law, even if the latter does not have formal training in environmental law.

#### Box 2. Getting the Right People for the Legal and Institutional Profile

The biodiversity legal and institutional profiles project of IUCN, which involved Bangladesh, Cuba and The Gambia, relied on three legal consultants with different backgrounds: a public interest litigator working for a national non-governmental environmental organisation; a lawyer working within a national environmental ministry; and an outside international legal consultant with extensive knowledge of the country who worked with an in-country lawyer.

*continued on the next page*

## Box 2. Getting the Right People for the Legal and Institutional Profile

*continued from the preceding page*

The environmental advocate found the experience very worthwhile because the project taught him new analytical research skills different from those required in his advocacy work. In addition, he found that his reputation as a public interest litigator enabled him to obtain information that might not normally be obtainable in his country, although he acknowledged that this could also work to a practitioner's detriment.

The ministerial lawyer found that being an "insider" gave him excellent access to governmental documents and the expertise of his colleagues within his ministry. This was especially useful for gaining feedback on early drafts of his work. He also noted that undertaking the profile, and ultimately implementing any recommendations in the profile report, may be much easier if the profile exercise is developed with and supported by the governmental authorities overseeing environmental portfolios.

By teaming-up with and establishing a strong working relationship with a young justice ministry lawyer who did not have any formal environmental legal training, the international consultant was able to build a significant, low cost training component into his profile work.

With the experience she gained, the in-country lawyer later went on to participate in other environmental law-related activities within her country. She was also able to subsequently participate in and actively contribute to the United Nations Environment Programme's Global Training Programme in Environmental Law and Policy. By collaborating with an in-country lawyer, the international consultant demonstrated that meaningful work could still be undertaken by someone not based in the country.

The preceding suggestions assume that a lawyer or lawyers will be retained to do a single comprehensive legal and institutional profile. However, a profile can be undertaken in many different ways depending on the circumstances of the country concerned. This guide only suggests one approach.

It may be useful to consider expanding the profile team to include disciplines other than law. Opening the profile team to non-lawyers, and the variety of

perspectives and experiences on the country's biological diversity and laws that it will bring, should help uncover why a particular legal and institutional approach may or may not be working on the ground. A multi-disciplinary team might include members with backgrounds in law, planning, economics and biology (Shine and Glowka, 1998). Representatives from the private sector and civil society, in particular indigenous and local communities, might also be considered.

## 2.3 Define the Methodology of the Profile

The profile team should be responsible for defining the methodology for the profile. Defining the methodology is a task which includes determining such things as the procedural steps of the profile process (Section 2.3.1), defining the scope of the profile (Sec-

tion 2.3.2) and identifying relevant sources of law (Section 2.3.3). It also includes setting the general parameters for establishing and evaluating the knowledge base (Section 3.0).

### 2.3.1 Determine the Procedural Steps of the Profile Process

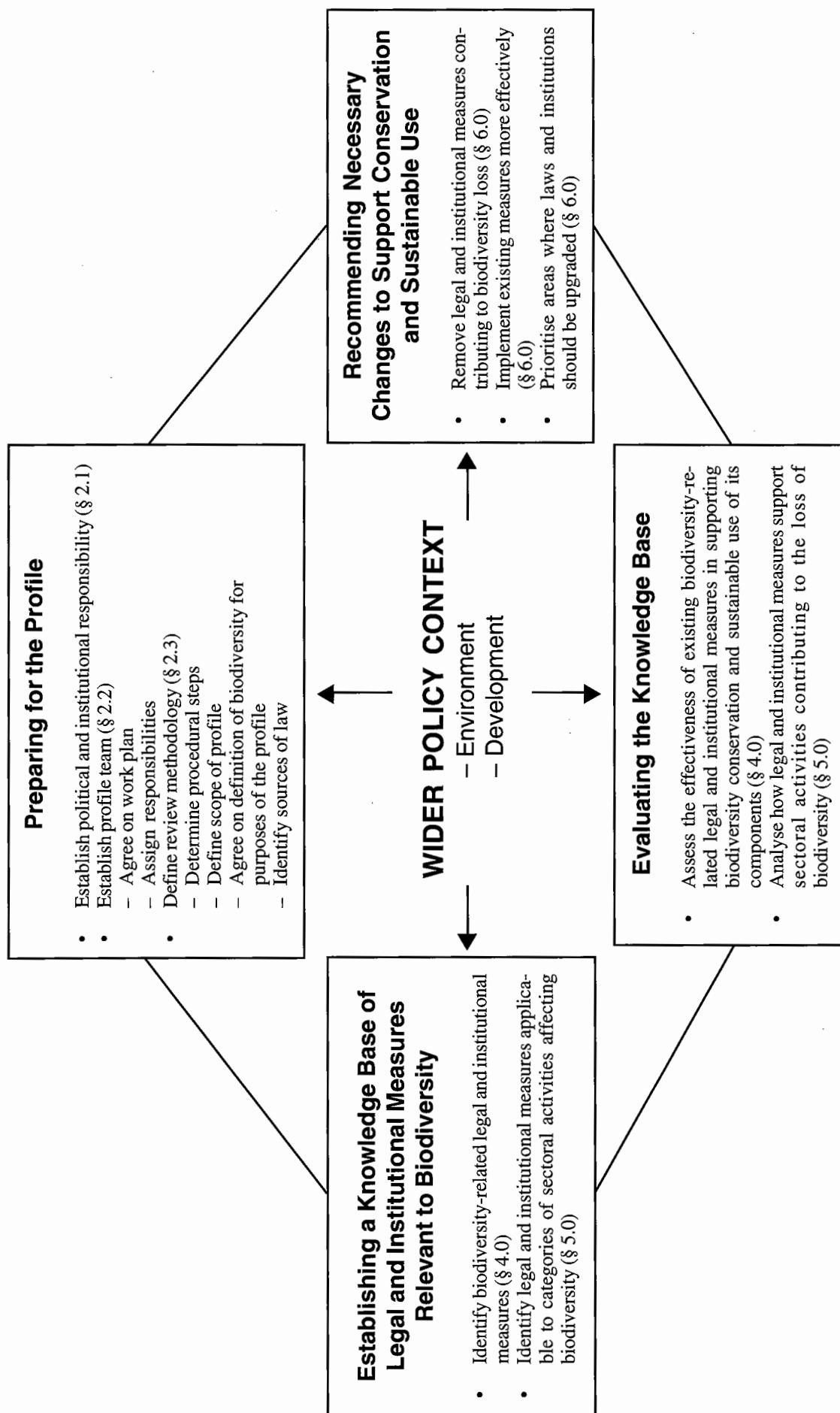
Figure 2 gives one example of the possible procedural steps involved with carrying out a legal and institutional profile. It depicts the review as an ongoing or cyclical process with three basic steps:

- Step 1: establishing a knowledge base of laws and institutions relevant to biodiversity;
- Step 2: evaluating the knowledge base; and
- Step 3: recommending necessary legal and institutional changes.

The profile team may choose to begin the profile anywhere within the cycle depending on the situation of the country and the wider environment and development policy context in which the country finds itself.

The wider policy context for undertaking a legal and institutional profile can assist greatly the profile team in its work. For example, lessons can be learned, sources of information can be identified and the legal and institutional basis for synergy across sectors can be uncovered.

**Figure 2. Carrying Out a Biodiversity Legal and Institutional Profile**



Source: Adapted from Shine and Glowka, 1998

Some countries may have already established and evaluated scientific, legal and institutional knowledge bases as a result of creating environment and development strategies and action plans in other contexts. These include National Strategies for Sustainable Development (undertaken pursuant to Agenda 21 (Chapter 8.7)), National Conservation Strategies (un-

dertaken since 1980, with guidance from IUCN, UNEP and WWF) and National Environmental Action Plans (associated with World Banking funding). Sectoral strategies and action plans associated with other international agreements and processes, such as the Wetlands, Desertification and Climate Change Conventions may also be relevant.

### **2.3.2 Define the Scope of the Profile**

The usefulness of a biodiversity legal and institutional profile will depend on many variables. But properly defining the scope of the profile is perhaps the most important initial task in the process to define the profile methodology.

An important threshold issue is reaching a common understanding of what is meant by "biodiversity" (see Box 1). At a minimum, this should be consistent with what is meant by biodiversity in the larger planning process. Article 2 of the Convention on Biological Diversity provides an important departure point for considering this question.

Ideally, the profile team would collect information to establish a knowledge base or baseline of information on all laws and institutions in the country which affect or are likely to affect biodiversity, in other words, all laws and institutions relevant to biological diversity. Since this could be very ambitious, the scope of the undertaking will likely depend on the financial resources and time available.

Practitioners will quickly discover that in some countries the scope is potentially overwhelming, especially because biodiversity issues cut across many sectors – some obvious and some not so obvious (Section 5.0). Therefore, the scope of the legal and institutional profile should also depend on the scope of the overall biodiversity planning process, which at a minimum, should take as its basis the obligations in the Convention on Biological Diversity (see Appendix 1). Another approach might be to concentrate the legal and institutional profile on the priorities determined in the biodiversity strategy developed by the planning process.

Whatever approach is ultimately taken, the profile

should at least go beyond the traditional areas of nature conservation, such as protected area and wildlife laws, and attempt to review all "biodiversity-related" laws and institutions, in other words, those related to ecosystems, species and genetic resources (Section 4.0 and Figure 3).

In many cases, the loss of biological diversity is the unintended consequence of human activities. Consequently, the profile should also address the legal and institutional measures applicable to sectoral activities which affect biological diversity (Section 5.0 and Figure 3). Such an approach would be consistent with two of the most important obligations in the Convention: (1) identifying processes and categories of activities which have or are likely to have significant adverse impacts on the conservation and sustainable use of biological diversity (article 7(c)) and (2) regulating or managing the processes and categories of activities identified (article 8(l)).

The sectors which are most relevant will be country-specific. The threats to biodiversity that they pose should be identified in another component of the biodiversity planning process. In fact, fulfilling articles 7(c) and 8(l) should be at the very heart of the biodiversity planning process.

Importantly, the legal and institutional profile will also provide an opportunity to identify all of the country's international obligations relevant to biodiversity: those which are biodiversity-related and those related to sectors which affect biodiversity (Section 3.1.3). The profile should be used to compile international agreements that the country has ratified or acceded to. It should then assess their implementation status, including supporting legislation. The information gathered may be relevant to other components of the biodiversity planning process.

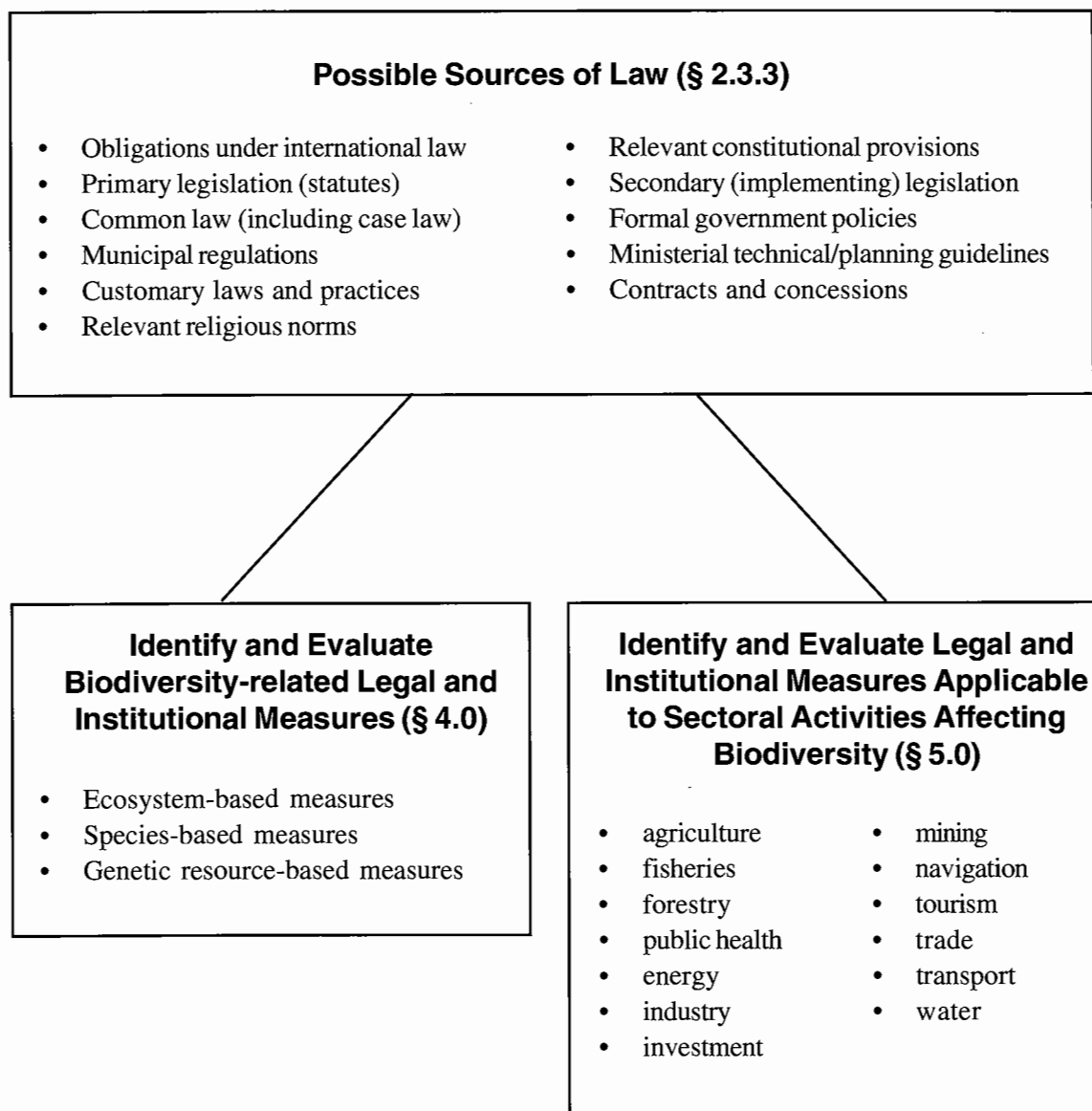
### **2.3.3 Identify Sources of Law**

Related to defining the scope of the profile is identifying sources of law for the profile team to review. For the purposes of this publication the term "law" will reflect a broad meaning.

The sources of law for a biodiversity legal and institutional profile are both statutory and non-statutory. They may include international obligations, constitu-

tional provisions, primary legislation (e.g., statutes), secondary legislation (e.g., administrative regulations), common law (including case law), formal government policies, municipal regulations, ministerial technical/planning guidelines, government contracts and concessions, customary laws and practices and applicable religious norms (Shine and Glowka, 1998).

**Figure 3. Establishing a Knowledge Base of Legal and Institutional Measures Relevant to Biological Diversity**



Source: Adapted from Shine and Glowka, 1998

The checklist will need to be evaluated and adapted by the profile team depending on the country's particular system of government, for example, whether it is centralised or decentralised.

International obligations, constitutional provisions and primary legislation are the most obvious sources of law for the profile team to collect and subsequently evaluate. Secondary legislation, such as administrative regulations, may be the ultimate reflection of the implementation status of primary legislation, aside from measuring actual on-the-ground impact.

For example, one IUCN legal consultant noted that he believed that his country had all the necessary statutory laws in place to conserve biological diversity. He explained however that implementation was ineffective because administrative regulations called for in the legislation had not been written. This was because, in many cases, the legislation failed to designate the institution charged with implementation. As a result, regulations were never written and the primary legislation was not implemented. It consequently had no effect on the ground. Where administrative regulations do exist, the profile team will need to exercise discretion as to the depth of analysis because of their potential great detail.

Formal government policies, ministerial technical/planning guidelines and government contracts and concessions are another potential source of principles upon which law and governmental actions may be based. Depending on the country, these may even

be enforceable in the courts. Therefore, they should not be overlooked.

Also not to be overlooked to the extent possible, unwritten customary laws and practices of indigenous and local communities may be enormously important to conserving biological diversity, sustainably using its components and ensuring benefits for the use of genetic resources, as well as related indigenous and local knowledge. Even where formal legislation exists, customary laws and practices may be the primary source of law governing the actions of individuals within these communities, especially with regard to biological resources.

Depending on the country, religious norms may be equally significant to the legal and institutional profile. For example, Islamic law reflects principles for conserving the environment (Bagader, *et al.*, 1994) which may be applicable in the country studied and are therefore relevant to the legal and institutional profile.

Once the preparatory phase has been completed, the profile team can carry out the profile using its chosen methodology. Sections 4.0-6.0 describe the three possible steps of the review process in greater detail: (1) establishing and (2) evaluating a knowledge base and (3) making recommendations. For clarity, the first two steps are discussed together. General parameters for establishing and evaluating the knowledge base are considered in Section 3.0.

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### 3.0 General Parameters for Establishing and Evaluating the Knowledge Base

When establishing a knowledge base of laws and institutions relevant to biodiversity, it may be useful conceptually to create two sub-categories:

- (1) “biodiversity-related” legal and institutional measures (Section 4.0); and
- (2) legal and institutional measures applicable to sectoral activities affecting biological diversity (Section 5.0).

Once the profile team has established a knowledge base, it can evaluate the legal and institutional measures identified. The two primary objectives of the evaluation phase should be:

- Assessing the effectiveness of existing biodiversity-related legal and institutional measures in supporting biodiversity conservation and the sustainable use of its components, including benefit-sharing for the use of genetic resources; and
- Analysing how legal and institutional measures applicable to sectoral activities contribute to the loss of biological diversity by those activities.

The basic idea behind the evaluation is to identify gaps, overlaps and inconsistencies. These should then be described in the profile. This is necessary before the profile team can develop recommendations for needed legal and institutional changes (Section 6.0).

While undertaking its evaluation, the profile team should be mindful that laws and institutions in many countries have traditionally evolved in piecemeal fashion. Typically, there is little cross-sectoral co-ordination and few, if any, direct references to biological diversity. Consequently, the profile team should be on the look out for legal and institutional conflicts which

make it difficult to achieve conservation and sustainable use, and, in particular, to regulate or manage potentially damaging activities (Shine and Glowka, 1998).

As part of its evaluation, the profile team should also seek out a number of factors which may limit the effectiveness of existing legal and institutional measures. These include:

- weak or incomplete laws;
- ineffective institutions;
- jurisdictional conflicts; and
- problems with implementation (Shine and Glowka, 1998).

The Convention on Biological Diversity highlights a number of other issues which can be considered by the profile team while it evaluates the effectiveness of existing laws and institutions. These are described in Sections 3.1 through 3.14. Depending on the approach taken by the profile team, these can be considered separately as stand alone issues since they have their own legal and institutional basis, or as issues cross-cutting to both biodiversity-related and sectoral legal and institutional measures.

In some cases, these issues may be already addressed in framework, enabling or stand alone environmental laws. Biodiversity and sectoral laws may either refer back to the more detailed provisions found in these other laws or they may expand upon them in order to advance particular biodiversity considerations.

It will be up to the profile team to decide how best to organise and present cross-cutting issues, keeping in mind that it is important to minimise redundancy in the profile report.

#### 3.1 Institutional Jurisdiction Over Ecosystems, *In-situ* and *Ex-situ* Species and Genetic Resources

A threshold issue for the profile to address is whether the laws reviewed designate a particular institution or institutions to implement them. It should identify gaps or conflicts in jurisdiction which ultimately affect biological diversity.

The profile team should keep in mind the two types of jurisdiction institutions can have: (1) subject-matter and (2) territorial. Subject-matter jurisdiction refers to an institution’s power to address a particular subject. The subject-matter could be, for example,

game or non-game species; jurisdiction based on environment (e.g., terrestrial, aquatic or marine) or activities (e.g., hunting, fishing or forestry).

Territorial jurisdiction refers to the geographical area over which an institution has authority. Issues of territorial jurisdiction arise in both unitary and federated or regionalised States (de Klemm, 1993). Therefore, a State’s constitution may be the primary source of law to ascertain the situation.

### **3.2 Planning Processes and Integration (Sectoral and Cross-sectoral) (articles 6(a) and (b) and 10(a))**

Planning is at the heart of implementing the Convention on Biological Diversity (article 6(a)). The Convention also requires Parties to integrate biodiversity considerations into other sectoral and cross-sectoral plans, programmes and policies (article 6(b)). Furthermore, conservation and sustainable use of biological diversity is to be integrated into national decision-making (article 10(a)).

Written policies, legislation and administrative regulations are likely to be central to all of these issue areas and should be highlighted in the profile. In addition, opportunities for inter-agency cooperation, and obstacles to it, are areas that the profile team should be watching for and recording, especially when there may be a variety of policies, legislation and institutions dealing with environmental management and natural resource management which may adversely impact biological diversity (Section 7.3).

### **3.3 Identification and Monitoring (article 7)**

The Convention's identification and monitoring requirements (article 7) can be interpreted as self-executing. However, there may be existing stand alone laws or legal provisions in the country which already

require identification and monitoring. These should be identified and evaluated in the profile for their applicability to biological diversity. The responsible agencies to undertake this should also be identified.

### **3.4 Public Participation and Access to Information**

Public participation is recognised as an essential element of any approach to decision-making on biodiversity. The Convention on Biological Diversity requires public participation only "as appropriate" in article 14(1)(a) (environmental impact assessment), even though public participation is relevant to many other aspects of the Convention's implementation.

For example, public participation is extremely important in biodiversity planning (article 6), creating and managing protected areas (article 8(a) and (b)), restoration efforts (articles 8(f) and article 10(d)), any regulatory measures taken to conserve biodiversity and sustainably use its components, developing incentive measures (article 11), public education and awareness (article 13) and access to genetic resources (article 15). The participation of indigenous and local communities in biodiversity management decision-making, and in managing natural resources whose use could adversely affect biodiversity, is also important to the implementation of article 8(j) (respect, preserve and maintain the knowledge, innovations and practices of indigenous and local communities) and article 10(c) (protect and encourage the customary use of biological resources). To make public participation meaningful it must be coupled with

access to environmental information held by the government.

For public participation to be effective it should be provided for in law. To ensure meaningful participation, legislation should specify to what extent decision makers are to take the views of the public into consideration in their decision-making.

The profile should describe how public participation is ensured in the country, for example, whether civil society may associate in non-governmental organisations. In addition, the profile should describe and evaluate whether civil society has access to environmental information, the procedures for gaining access including the terms or conditions of access. The profile team can refer to principles set out in the United Nations Economic Commission for Europe's Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (1998).

The issue of access to judicial and administrative channels for redress and remedy or vindication of the public interest is also a facet of public participation and should be described and evaluated in the profile.

### **3.5 Indigenous and Local Communities**

Some of the options a Contracting Party may choose to fulfil its obligations under the Convention on Biological Diversity with respect to indigenous and local

communities may need to be implemented in conjunction with laws which provide individuals or communities certain rights.

These could be related to the ability to associate, maintain culture, own and use land and natural resources, control and protect intellectual property, have legal personality and be legally recognised. The biodiversity legal and institutional profile should address these areas.

If possible, the profile should also highlight the interface between statutory law and customary, cultural or religious norms. This is particularly relevant where a country has plans to decentralise biological resources management to the local level. National or sub-national law can either encourage or discourage

these arrangements, while customary, cultural or religious norms may provide a useful basis with which to supplement formal legislation.

Many countries are decentralising biological resource management to the local level by entering into collaborative or co-management arrangements with indigenous and local communities. The legal basis for these arrangements might be reviewed to determine their efficacy and whether existing laws and institutions encourage or discourage their formation and execution.

### **3.5.1 Knowledge, Innovations and Practices (article 8(j))**

The knowledge, innovations and practices of indigenous and local communities relevant to conservation and sustainable use of biological diversity are to be respected, preserved and maintained by Parties to the Convention on Biological Diversity (article 8(j)).

In addition, their wider application is to be promoted and equitable benefit-sharing with the holders of knowledge, innovations and practices is to be encouraged. The profile should reflect what legal mechanisms are in place to ensure these three points.

#### **3.5.1.1 Exchange of Indigenous and Local Knowledge (article 17(2)) and Cooperation to Develop and Use Traditional and Indigenous Technologies (article 18(4))**

Exchanging indigenous and local knowledge, developing and using indigenous technologies and notions of benefit-sharing imply that the availability of information not already in the public domain is subject to the prior informed consent of a community or individuals which hold the knowledge and technology.

The profile should examine statutory and customary legal mechanisms to ensure prior informed consent and equity, including the availability of traditional and non-traditional forms of intellectual property rights and contractual mechanisms.

### **3.5.2 Customary Use of Biological Resources (article 10(c))**

Customary use of biological resources is to be encouraged by each Contracting Party to the Convention on Biological Diversity, provided it is consistent with biological diversity conservation and sustainable use objectives (article 10(c)).

Modern laws, institutions and biological resource management practices rarely recognise customary uses. In many cases they conflict with indigenous and local community norms such as community dispute settlement. There are important conflicts with

communal ownership and resource use as well (Section 3.11).

The profile should highlight which laws and institutions create such conflicts over controlling and managing biological resources. These could be contrasted with measures which actually facilitate customary use. This issue could be treated as a cross-cutting issue in the context of ecosystem, species or genetic resource-based measures (Section 4.0).

## **3.6 Research and Training (article 12)**

The research and training obligations of the Convention (article 12) may be interpreted as self-executing. However, national research and training policies and enabling legislation may still be relevant.

For example, legislation may be important in estab-

lishing national research priorities for biodiversity and creating public research and training institutions and programmes. It may also be relevant to allocating public funding for biodiversity research and training. Therefore the profile should address research and training.

### **3.7 Public Education and Awareness (article 13)**

The Convention's public education and awareness obligations (article 13) may be interpreted as self-executing. However, the profile team should be aware that a country's national educational policies, especially for environmental curricula, may be anchored in legislation. Public awareness programmes may also have a legislative basis. In both cases, institutions to

oversee the country's approach to public education and awareness should be designated. Public education and awareness is also related to civil society's access to environmental information and public participation (Section 3.4). For all of these reasons, public education and awareness on biological diversity may be a relevant issue for the profile to address.

### **3.8 Technology Transfer (articles 16 and 19)**

Technology transfer is potentially a very broad area for the profile to address. The profile team must take care not to lose focus.

The Convention focuses on (1) technologies relevant

to the conservation of biological diversity; (2) technologies relevant to sustainable use of the components of biological diversity; and (3) technologies that make use of genetic resources (article 16(1)).

#### **3.8.1 Providing or Facilitating Access to Environmentally Sound Technologies (article 16(1))**

Legal and institutional measures for facilitating transfer of technologies in recipient countries should be addressed by the profile. If relevant, the role of the country as a supplier of technology may also be addressed.

There are many different ways to facilitate access to and transfer of technology. As a first step to understanding a country's particular approach, the profile should review existing policies and practices, especially in the areas of biodiversity research and technical and scientific cooperation (between States). This

information could be taken from other components of the biodiversity planning process.

There are also indirect intersections with such areas as taxation and economic incentives, foreign investment rules, trade assistance, intellectual property rights protection and collaborative research and development arrangements which could be explored by the profile team. It is particularly relevant to ascertain what bilateral or multilateral agreements the country has entered into for technical and scientific cooperation on biological diversity.

##### **3.8.1.1 Rules to Assess the Environmental Soundness of Transferred Technology (article 16(1))**

Technology transfer is not necessarily a benign process or activity. The use of transferred technologies can have adverse effects on biological diversity. The profile should highlight whether the country has any legal or institutional mechanisms, such as environ-

mental impact assessment or environmental audit, for ascertaining the environmental soundness of technology both before and after it is transferred and used.

#### **3.8.2 Adequate and Effective Protection of Intellectual Property Rights for Formal and Informal Technologies (article 16(2))**

Intellectual property rights are private legal rights which apply to the intangible human contribution which is needed for creating innovative technologies. Legislation and case-law create the legal right and define its scope.

Three types of intellectual property particularly relevant to the Convention on Biological Diversity are patents, trade secrets and plant variety protection. New forms of intellectual property may need to be created or new applications of existing contractual

tools such as know-how agreements and trade secret protection may need to be used to give greater control to indigenous and local communities over their knowledge, innovations and practices.

Although most technology relevant to the conservation of biological diversity is in the public domain (Mugabe and Clark, 1996), including biotechnology, the profile should still briefly describe and evaluate the country's intellectual property system, especially with regard to biotechnology.

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### **3.8.3 Access to and Transfer of Technology Using Genetic Resources with Countries of Origin of Genetic Resources (articles 16(3) and 19(2))**

Access to and transfer of technology using genetic resources with the countries providing genetic resources is a sub-set of the more general Convention technology transfer obligations. It is also related to benefit-sharing issues raised under article 15 (Section 4.3).

The profile should ascertain whether the country has any particular laws and institutions in place to ensure that these technologies are shared. This could also be addressed in the profile's analysis of access to genetic resources.

### **3.8.4 Private Sector Facilitation of Access to, Joint Development and Transfer of Technology (articles 10(e), 16(4) and 19(3))**

The private sector is an important primary source of technology, especially biotechnologies using genetic resources. The profile should highlight whether there

are policies, legislation or incentives in place to facilitate the transfer of privately developed technologies.

#### **3.8.4.1 Rules on Technology Transfer by Trans-national Corporations and Overseas Development Agencies**

Trans-national corporations operate in most countries and overseas development agencies operate in developing countries and those with transition economies. Both are involved in technology transfer. Even though they are not directly mentioned in the Convention on Biological Diversity, their activities can have great impact on a country's biological diversity.

The profile could highlight whether the country has laws in place to ensure that the technology transferred by trans-national corporations and overseas development agencies is subject to the same environmental rules on technology transfer, including environmental impact assessment, as other organisations located within the country.

### **3.9 Information Exchange (article 17)**

Parties to the Convention on Biological Diversity are required to facilitate information exchange on biodiversity from all publicly available sources (article 17(1)). The Convention provides a short list of indicative thematic areas (article 17(2)).

The obligation focuses on information exchange between Parties. However, information exchange within a country is also important especially for public participation in decision-making (Section 3.4) and public education and awareness (Section 3.7). Both situations should be addressed by the profile.

The obligation to "facilitate" information exchange could imply creating an enabling legal and institutional framework. It could also imply that obstacles should be removed which prevent or impede information exchange.

Some obstacles could have a legal and institutional basis, therefore the profile should highlight what these are. For example, legislation may impede access to biodiversity-related information. Institutions may lack clear competence to disseminate information or competencies may overlap.

### **3.10 Incentive Measures (article 11)**

Economics is a driving force behind the loss of biological diversity; it may also be the key to stemming it. The Convention on Biological Diversity does not mention economics directly. Instead the theme is picked up in article 11 which addresses economically and socially sound measures which act as incentives to conserve and sustainably use biological diversity.

Though not defined in the Convention, in practice the term "incentive measures" includes incentives, disincentives and perverse incentives. Most will have a legal basis since law is typically necessary to create

and implement them. Political considerations, legislation and institutional conflicts can impede reform efforts.

Incentives encourage particular behaviour which should lead to biological diversity's conservation and sustainable use. Disincentives discourage behaviour which results in biological diversity's loss.

An example of the former is tax incentives to encourage a particular land use which conserves biological diversity. An example of the latter is making

the “polluter pay” to discharge pollution into a waterway where aquatic biodiversity could be threatened. A corollary is creating fee structures for using particular biological resources, land or sea areas or ecosystem services and functions which fully reflect their values (to the extent practicable).

Perverse incentives are incentives which encourage the loss of biological diversity. Many perverse incentives are very often instituted for perfectly valid political or social reasons, such as providing subsidies to clear land for agriculture or to capitalise a fishing fleet. Identifying and then eliminating or minimising perverse incentives may be the single most important step a country can take to stem the loss of bio-

logical diversity. In addition, eliminating or minimising perverse incentives is an important prerequisite to implementing effective biodiversity-friendly incentive and disincentive measures.

The profile should briefly describe the political, legal and institutional basis for incentives, disincentives and perverse incentives in the country. Possible areas for review include laws on agriculture, fisheries, forestry, pollution control, tourism and transport. Other areas which could be reviewed include laws for natural resource use or extraction, taxes, investment and trade including a country’s system of tariffs and duties on imported and exported biological resources.

### **3.11 Tenure and Usufruct**

Tenure and usufruct are not addressed in the Convention on Biological Diversity even though they are issues fundamental to conservation and sustainable use. They are particularly relevant to implementing article 10(c) (customary use of biological resources) and article 11 (incentive measures) (Sections 3.5.2 and 3.10).

Tenure is the body of rights which individuals and communities have in land and sea areas, as well as the natural resources found there. Usufruct, distinct from ownership, describes individual and community

rights to use particular areas or resources owned by another. Ill-defined tenure and usufruct rights can encourage the over-exploitation of biological resources and ecosystems.

Tenure and usufruct have their origins in statutory and customary law. The profile should describe the systems operating in the country. It will also be necessary for the profile to evaluate how the existing tenure arrangements, including conflicts between the statutory and customary systems, affect biological diversity.

### **3.12 Financial Resources (article 20(1))**

Each Contracting Party to the Convention on Biological Diversity undertakes to provide financial support and incentives for national activities intended to achieve the Convention’s objectives (article 20(1)). Because the obligation refers to both money and incentives there are natural overlaps with article 11 on incentive measures (Section 3.10).

A primary goal of the overall biodiversity planning process should be to examine how existing national conservation funds are spent and whether they can be spent more wisely – either more cost effectively or on higher priority conservation issues. The examination should take into consideration other government expenditures which directly or indirectly impact biological diversity positively or negatively. How these expenditures could promote conservation and sustainable use should be identified. Innovative funding mechanisms could be explored.

Allocating financial resources to biodiversity intersects with legal and institutional mandates and is rel-

evant to completing a biodiversity legal and institutional profile. The profile team, however, must exercise discretion in addressing this issue as it may be very easy to lose focus.

In conjunction with other components of the biodiversity planning process, the profile team could explore the legal basis for appropriating financial resources to biodiversity-related institutions and programmes within the country. Laws related to placing a more accurate or fuller value or price on biological resources and national “green” accounting policies could be described. Related areas include the legal basis for levying fees on natural resource extraction industries or on other users of areas under government control as part of granting concessions; directing benefits back to local communities; and linkages between development projects and conservation. It may also be relevant to determine whether national environmental funds can be established and what laws exist or may be needed to enable this.

### 3.13 Cooperation (articles 5, 8(m), 9(e), 10(e), 12(c), 13(b), 14(1)(c-e) and 18(2)(4)(5) and 26)

The Convention on Biological Diversity uses the term “cooperation” in the traditional sense to describe relationships between States. It also uses it in a non-traditional sense to describe relationships between government and different private actors within the State.

In terms of approach, the profile team could address cooperation generally in a separate section of the

profile report. Alternatively, cooperation in the context of particular thematic areas, such as ecosystem or species-based measures, could be addressed under the appropriate topic. For example, a section on species-based measures could highlight the international agreements the country is party to and what specific measures have been undertaken since the agreement was ratified, including enacting and implementing enabling legislation.

#### 3.13.1 International Cooperation Between States

International cooperation takes place on a bilateral or multilateral basis between States. Bilateral cooperation may be manifested in a legal instrument between two States. States can also cooperate multilaterally by participating in international organisations or negotiating and ratifying international agreements.

Operationalising international cooperation may require implementing or enabling legislation. The profile should highlight the biodiversity-related and sectoral co-operative arrangements the State has entered into. The Convention on Biological Diversity provides a broad outline of themes upon which cooperation could be based.

For example, Convention Contracting Parties are required to cooperate in:

- areas beyond the limits of national jurisdiction and in matters of mutual interest (article 5);
- financial and other support for *in-situ*

conservation and *ex-situ* conservation (articles 8(m) and 9(e));

- use of scientific advances in biological diversity research (article 12(c));
- developing educational and public awareness programmes (article 13(b)); and
- technical and scientific matters (article 18).

The profile team could review these areas by generally identifying the areas of cooperation, the affiliated institutions and whether there are supporting laws.

The profile report should also describe problems which may generally impede international co-operative efforts from being initiated or fulfilled with regard to biodiversity. For example, the profile might describe what problems may exist in ratifying biodiversity-related legal instruments and subsequently implementing them.

##### 3.13.1.1 Co-operative Actions When Biological Diversity is Threatened (article 14(1)(c-e))

The Convention on Biological Diversity requires Parties to promote a number of co-operative actions in instances when biological diversity is threatened.

For example, information exchange, notification and remedial procedures when activities threaten the biological diversity of other States or areas beyond the limits of any national jurisdiction are all required by the Convention on Biological Diversity (articles 14(1)(c) and (d)). Parties are also to promote na-

tional arrangements for emergency responses to activities or events threatening biological diversity (article 14(1)(e)).

The profile should indicate what measures a country has taken in these areas as many of these will likely intersect with a country's particular internal policies, laws and institutions as well as bilateral or multilateral arrangements.

##### 3.13.1.2 National Reporting to Intergovernmental Bodies (article 26)

States party to different multilateral environmental agreements, or as members of intergovernmental organisations, may be faced with a bewildering array of reporting requirements to the respective governing bodies. Clear institutional competencies for re-

porting, elaborated in national legislation, may be required when more than one agency in a country deals with natural resource management issues, such as biodiversity.

Laws may also specify mechanisms for inter-agency co-ordination. The profile could highlight whether these will also contribute to integrating conservation and sustainable use into sectoral and cross-sectoral

plans, programmes and policies (article 6(b)). It could also contribute to more integrated decision-making (article 10(a)).

### **3.13.2 “Intra-national Cooperation” Between Government and the Private Sector (article 10(e))**

The role of the private sector in biodiversity conservation and sustainable use is increasingly recognised. Article 10(e) of the Convention encourages Parties to develop cooperation between governmental authorities and the private sector to develop sustainable use methods.

A threshold question is defining “private sector”. Business and industry come to mind immediately, but the term might also include non-governmental organi-

sations, communities and individuals.

Intra-national cooperation can take many legal forms including elaborating contractual agreements, voluntary agreements, codes of conduct, creating incentive measures and enacting legislation. The profile might identify which private sector co-operative efforts exist, which laws enable such activities, which governmental institutions are involved and the instruments used to define the cooperation.

## **3.14 Sanctions, Remedies and Enforcement**

Sanctions, remedies and enforcement are not addressed by the Convention on Biological Diversity unless one considers them to be related to either disincentive measures (i.e., to discourage behaviour damaging to biodiversity) or perverse incentives (i.e., if they don’t exist or are ineffectively applied). In this sense, therefore, they could be addressed under article 11 (Incentive Measures). Sanctions, remedies and enforcement, along with the related matter of access to the court system on environmental matters (Sec-

tion 3.4), are essential components of biodiversity management regimes.

The profile should review sanctions and remedies contemplated by biodiversity-related laws and laws of sectoral activities affecting biological diversity. It should also address enforcement issues, noting why particular laws may or may not be effectively enforced.

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## 4.0 Identify and Evaluate Biodiversity-related Legal and Institutional Measures

Biodiversity-related legal and institutional measures are those which directly promote conservation and sustainable use. They include those laws and institutions which directly support the implementation of the Convention on Biological Diversity as well as other biodiversity-related international instruments.

All countries have some form of environmental legislation and administration which is or can be used to support conservation and sustainable use, although relatively few have enacted special biodiversity laws. Depending on the country, conservation and sustainable use measures may be contained in national and sub-national laws and regulations on environmental protection, nature conservation, protected areas, land-

use planning, coastal zone management, water resource management or pollution control (Shine and Glowka, 1998). At local level, customary laws and community-based institutions may be relevant (Shine and Glowka, 1998).

For purposes of subsequent analysis, it may be helpful to think of this component of the knowledge base as something composed of three inter-related subdivisions:

- ecosystem-based measures (Section 4.1);
- species-based measures (Section 4.2); and
- genetic resource-based measures (Section 4.3).

### 4.1 Ecosystem-based Legal and Institutional Measures

The Convention on Biological Diversity generally requires each Contracting Party to promote ecosystem and natural habitat protection (article 8(d)). Such area-based measures are to be undertaken both inside and outside protected areas. The areas protected can encompass entire representative or unique ecosystems, a composite of ecosystems or smaller portions, such as species habitat.

This obligation can be broadly interpreted to require the sustainable use of ecosystems as a necessary pre-requisite. Although the Convention does not explicitly require this, the wise use of wetlands requirement under the Ramsar Convention does embody the concept of sustainable use of ecosystems.

The legal and institutional aspects of ecosystem or area-based conservation start with physical planning and ecological zoning. They involve establishing specific use restrictions and oversight over land and sea areas for particular purposes such as biodiversity conservation (de Klemm, 1993). Site specific and non-site specific measures (Sections 4.1.1 and 4.1.2) are used.

Examples of the former include creating protected areas. Examples of the latter include protecting cer-

tain types of natural or semi-natural habitat or landscape features (de Klemm, 1993).

Area-based measures can be negative (preventing the owner or holder from doing something) or positive (requiring or encouraging the owner or holder to do something), or both.

In addition to providing a general overview of the legal and institutional aspects of site specific and non-site specific measures used in a country, a legal and institutional profile could also address tenure over land and sea areas (public, private or common) (Section 3.11). Determining whether public agencies have the legal capacity to acquire private or communal areas for conservation is also important, as is the legal basis of tools available to public agencies to acquire or extend management requirements over areas for conservation purposes including the right of pre-emption, the availability of tax incentives, compulsory purchase and special financial measures.

Where public ownership is not possible, the profile could describe the power to create regulatory limitations on land use activities and any related prohibitions. Finally, the availability of easements or servitudes to apply to particular areas might be explored.

#### 4.1.1 Site-specific Measures (articles 8(a) and (b))

Site specific measures are most closely associated with creating and managing protected areas.

Most countries have protected areas legislation and through it have created various categories of pro-

ected areas managed for different objectives. The Convention on Biological Diversity, as a subset of its general requirement to protect ecosystems and natural habitat, requires each Contracting Party to (1) establish a system of protected areas (article 8(a))

and (2) adopt guidelines to select, establish and manage them (article 8(b)). Implementing these provisions requires a strong legal base under which governments can establish and manage protected areas.

The profile team should collect information on and evaluate the country's laws regarding:

- the conditions and procedures required for creating, delineating accurately and, in exceptional circumstances, eliminating protected areas;
- the criteria for management, including prohibiting or restricting activities inside protected areas to maintain their integrity; and
- management authorities, their designation and the allocation of their powers and tasks (de Klemm, 1993).

The profile should also highlight the legal and institutional obstacles for managing effectively protected

areas in the country. These could include, for example, failure to provide for public participation (Section 3.4) in creating or managing a protected area, the management authority's lack of jurisdiction over areas or activities taking place outside the protected area or the protected area's inadequate integration within the country's overall physical planning system.

It would also be appropriate for the profile to describe a country's system for designating and managing protected areas pursuant to other biodiversity-related international instruments such as the World Heritage Convention (1972) and the Convention on Wetlands of International Importance (1971). The profile should focus on what legal and institutional measures have been taken and implemented to fulfil the country's international obligations with respect to protected areas and their level of success in attaining the goals of the particular conventions they are designed to support.

#### **4.1.1.1 Buffer Zones and Beyond: Environmentally Sound and Sustainable Development in Areas Adjacent to Protected Areas (article 8(e))**

In many cases, the integrity of a protected area and, therefore, its success depends on the types of activities which occur adjacent to its border. For example, sometimes a protected area can disenfranchise local communities who have lost access to an area and the use of its resources. Alternatively, development projects can present threats to a protected area.

Article 8(e) of the Convention requires development to be promoted in areas adjacent to protected areas, while ensuring that this is environmentally sound and sustainable.

To ensure environmentally sound and sustainable use, buffer or transition zones could be created around a core protected zone. This is the basic idea behind the Biosphere Reserve concept of UNESCO. The buffer zone should be subject to a legal regime requiring land use planning or some other form of planning and which regulates potentially harmful activities.

The profile could examine the legal and institutional aspects of creating and managing buffer zones around protected areas in the country. The legal and institutional aspects of existing representative examples could be described and evaluated.

Points examined could include whether:

- physical planning systems for land and marine areas exist and create an adequate basis for

creating and managing buffer zones around protected areas;

- environmental impact assessment is required for activities planned within the buffer zone; and
- institutional oversight, public participation and access to information and the application of incentive measures have been effective.

In instances where a country does not create formal buffer zones around its protected areas, or in areas beyond buffer zones, it may be possible to implement physical planning rules for adjacent areas within a certain radius of the protected area (de Klemm, 1993). Potentially threatening activities could be managed or regulated. This would need to be linked with an environmental impact assessment requirement to determine the impacts of particular activities within an area. Command and control measures should be supplemented with incentive measures.

The profile should examine what legal and institutional measures the country has in place for physical planning to oversee the use of land and marine areas, including the coastal zone, and for controlling activities beyond protected area perimeters to minimise their impacts on protected areas.

#### 4.1.2 Non-site Specific Measures for Areas Outside Protected Areas (article 8(a), (b) and (d))

Non-site specific ecosystem or area-based measures to conserve biological diversity can be applied to protect particular ecosystem or habitat types. In addition to applying to traditional protected areas, articles 8(a) and (b) of the Convention on Biological Diversity also apply to “areas where special measures need to be taken”. The term is not defined but could refer to non-site specific measures, for example, to protect habitat. Non-site specific measures are also applicable to protecting ecosystems (article 8(d)).

Ecosystems or habitats protected by non-site specific measures are not protected areas *per se* because there is no site specific geographical designation. Examples include special legal and institutional measures applicable to certain forests, agricultural lands, wetlands, mountain areas, rivers and lakes, coastal areas, coral reefs, caves and areas of native vegetation.

Laws to protect ecosystems and habitat types are not common. Where they do exist, legislatively-based planning controls are typically premised on prohibiting strictly certain harmful activities without a permit.

For example, filling or draining wetlands may be prohibited strictly or might only be possible in certain instances after obtaining a permit. Issuing the permit might be linked to a finding of no adverse impact as determined by an environmental impact assessment (Section 5.1). The permit might be issued with condi-

tions. Monitoring and enforcement activities may need to be implemented to ensure permit compliance.

The profile should describe and evaluate what non-site specific mechanisms exist in the country and their legal and institutional basis. Particular issues to examine might be whether:

- a physical planning system based on ecological or biodiversity considerations exists;
- clear legal definitions exist for habitat types to be protected;
- strict prohibitions on altering habitat types are available;
- effective programmes to regulate potentially harmful activities exist;
- exceptions from regulatory oversight exist;
- environmental impact assessment is required prior to permit issuance;
- regulatory agencies have been designated and administrative regulations have been promulgated;
- compensation is available when failure to issue a permit denies a landholder complete use of the property upon which the protected habitat is found; and
- incentive measures exist to promote conservation and sustainable use.

Whether monitoring and enforcement measures exist and are effective should also be considered (Section 3.1.4).

#### 4.1.3 Rehabilitate and Restore Degraded Ecosystems (article 8(f))

The Convention on Biological Diversity may be the first global treaty to include a general obligation requiring its Parties to rehabilitate and restore degraded ecosystems (article 8(f)). Rehabilitation and restoration efforts are to be accomplished by developing and implementing plans or other management strategies.

While not immediately apparent, ecosystem rehabilitation and recovery measures do have legal and institutional intersections. Some of these are variations on the same themes highlighted in earlier sections on ecosystem-based measures, such as issues of tenure and institutional competence. But this issue has its own unique legal and institutional implications as well.

For example, threshold issues may be whether:

- a legal basis is created to undertake rehabilitation and restoration efforts;
- plans or other management strategies are required;
- institutions are designated; and

- existing or new laws have been implemented aimed at ceasing or mitigating the activity which degraded an area in the first place.

The last point is directly related to implementing Convention articles 7(c) and 8(l) which require Contracting Parties to identify and then regulate or manage existing or future categories of activities which are or could adversely affect biological diversity (Section 5.0).

The legal and institutional profile should indicate whether such laws exist and, if they do, how effective they have been in ameliorating the problems they have been applied to. It may also be worthwhile to determine whether it is possible to apply environmental auditing to existing activities which adversely impact biodiversity. In addition, because ecosystem or habitat rehabilitation or recovery efforts may have their own environmental impacts, the profile might highlight whether these activities are subject to regulatory oversight, including an environmental impact assessment.

#### 4.1.3.1 Develop and Implement Remedial Action Plans by Local Populations and Institutions in Biodiversity Degraded Areas (article 10(d))

Article 10(d) of the Convention on Biological Diversity recognises that remedial action in degraded areas where biological diversity has been reduced may be best developed and implemented at the local level. The emphasis on local action is the primary thrust of the UN Convention on Desertification (1994).

The primary task of the profile team should be to ascertain whether laws and institutions provide a framework which encourages remedial action and assists local populations to carry it out (Glowka, *et al.*, 1994). The framework should have its basis in law and provide for an allocation of responsibilities, designing and implementing a strategy or action plan and providing financial resources, incentives and other support to encourage remedial action.

Local problems may have their origins in national policies that support perverse incentives (Section 3.10)

which encourage the loss of biological diversity and result in degradation. Policies which encourage degrading processes or activities should be identified in the profile. These may have already been identified in other components of the biodiversity planning process.

A profile should examine whether existing laws and institutions facilitate or impede local populations from developing and implementing remedial action plans. The problems may be analogous to those faced in the area of community-based natural resources management. A threshold issue may be whether management authority over degraded areas can be delegated to the local level. The ability to enter into and enforce community management agreements could also be described in the profile. An important point is to clarify who has ultimate responsibility for ensuring results.

### 4.2 Species-based Legal and Institutional Measures

Species-based measures have been a traditional technique used by governments to conserve biological diversity. Legislation usually prohibits or restricts certain acts in order to protect wild species (de Klemm, 1993).

Species-based measures are usually embodied in hunting and fishing laws which focus on managing and using game species. Forestry laws may also be relevant. Non-game species are usually covered by nature conservation laws, in other words, those specifically geared to the species' protection (de Klemm, 1993).

Species subject to management, including protection, are usually indicated in lists. Listing is tied to specified prohibitions or affirmative obligations with regard to the species listed.

A threshold issue for the profile to address is how species are legally defined and whether the definition used has created problems for implementing the legislation or amending the list.

#### 4.2.1 Legal and Institutional Basis for the State to Conserve and Sustainably Use Species *In-situ* and *Ex-situ* (articles 1, 8 and 9)

The State's power to enact laws to conserve and sustainably use species in *in-situ* and *ex-situ* conditions can be premised either on its ownership of the organisms in question or the exercise of the State's police powers to preserve the public's interest (de Klemm, 1993). The primary sources of law for determining this are usually the constitution and legislation.

The profile should assess the legal status of wildlife, in particular property rights over wild animals, wild plants and wild micro-organisms (e.g., bacteria, fungi and viruses). Because the Convention on Biological Diversity also applies to domesticated animals, cultivated plants and cultured micro-organisms, their le-

gal status should also be addressed by the profile.

The profile's discussion of the legal status of species (more correctly the populations of organisms which make up a species) naturally intersects with a country's rules on tenure and usufruct (Section 3.11) and those on collecting for purposes such as *ex-situ* conservation (Section 4.2.3) and genetic resources (Section 4.3).

The profile should also describe which institutions have jurisdiction over wild and domesticated or cultivated species, their environment or activities which affect them (Section 3.1). Another relevant issue which could be addressed is jurisdictional splits based on

species' movements between terrestrial, aquatic and marine environments. Finally, the profile should indicate which institutions have jurisdiction over wild plants and micro-organisms, subject-matter often neglected by legislation (de Klemm, 1993).

Territorial jurisdiction is especially relevant for marine species and the jurisdictional situation varies greatly from country to country (de Klemm, 1993). The profile should describe and evaluate the situation regarding territorial jurisdiction over species and any conflicts or inconsistencies.

## **4.2.2 *In-situ* Actions Involving Species (Conservation and Sustainable Use)**

The heart of the Convention on Biological Diversity is its provisions on *in-situ* conservation (article 8) and sustainable use (article 10). The Convention recognises *in-situ* conservation as the primary approach for biodiversity conservation.

The Convention defines "*in-situ* conservation" as "the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties" (article 2). The focus therefore is on:

- ecosystem and habitat conservation (Section 4.1);

- maintaining viable populations of species (Section 4.2.2.1); and
- species recovery (Section 4.2.2.2).

The Convention defines "sustainable use" as the "use of the components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations" (article 2). What constitutes "sustainable use" of species is still being defined. However, achieving sustainability will likely involve evaluating economic, social and political factors. General requirements include adequate information, management, law and institutions as well as incentives.

### **4.2.2.1 Maintain Viable Populations of Wild, Domesticated or Cultivated Species in Natural Surroundings (article 8(d))**

Maintaining viable species populations is another way of describing conservation and sustainable use. Implicit in this is taking proactive measures to protect species before their populations become seriously threatened. If necessary, proactive measures should be supplemented by, for example, measures to protect threatened and endangered species.

Many States have laws to protect vertebrate animal species, but laws to protect invertebrates, plants or micro-organisms are less common. Laws to protect domesticated animals such as rare breeds, or cultivated plants, such as land races, are also not very common.

The Convention actually groups maintaining viable populations of species in natural surroundings with protecting ecosystems and natural habitats. By grouping a requirement to protect viable species populations with those for habitat and ecosystem protection, the Convention recognises the inter-connection between species-based measures and area-based measures, something which laws frequently do not do. Laws also do not typically recognise the additional connection between species population, habitat and sustainable use.

At a minimum, a legal and institutional profile should ascertain whether a State has species-based laws and what their basis for action may be, for example,

what threats species are protected from. It should also identify and evaluate the measures or criteria used for determining when a species needs to be protected. In addition, the profile should identify and evaluate the criteria used to determine when a species should be protected and how the protected species is identified in the law for management purposes.

Furthermore, linkages could be identified between protecting a species, using it sustainably and protecting its habitat from destruction or alteration. For example:

- does the physical planning system rest upon ecological principles which include species-based considerations?
- do land use or coastal zone controls contain species-based measures?
- how is a species' use determined sustainable under the law, who decides this and what is the decision based upon?

Species protection should not simply be a static prohibitory measure. Affirmative actions on the part of the State, landholders and resource users are also required. Therefore, the profile should also indicate whether there are any existing linkages between species protection measures, incentive measures (article 11) and identifying and regulating or managing processes or categories of activities which impact

them (articles 7(c) and 8(l)). Linkages with environmental impact assessment (article 14(1)(a)) should also be established.

Finally, any legal and institutional intersections between species-based measures and indigenous and local community issues, such as customary use, should also be highlighted by the profile (Section 3.5).

#### **4.2.2.2 Protect and Restore Threatened Species and Populations (articles 8(k), 8(f) and 9(c))**

Species-based measures are typically associated with management efforts to protect threatened species. A subset of these are affirmative measures to restore, recover or rehabilitate threatened species. Articles 8(f) (promote the recovery of threatened species), 8(k) (develop or maintain laws to protect threatened species and populations), and 9(c) (adopt measures for threatened species recovery and rehabilitation) all deal with different aspects of threatened species, their populations and their protection or recovery.

A profile should identify the legal and institutional approaches being applied to threatened species and evaluate them for any deficiencies. For example:

- How do the country's laws and institutions correlate with on-the-ground improvement?
- Are there deficiencies which act as obstacles?
- Are protection measures correlated with removing or minimizing the threat?

The profile could also indicate what international cooperative efforts the country is involved with for species conservation and any consequent legal or institutional actions. One focus area could be migratory species, especially if the country is party to the Convention on Migratory Species of Wild Animals (1979) or its accessory agreements.

Many States already have laws and institutions in place to address threatened species, but may have trouble implementing them for a variety of different reasons. Administrative regulations and scientific information for identifying and monitoring threatened species may be non-existent or incomplete. Institutional responsibility may be unclear or lacking. A simple lack of capacity or financial resources may also be a problem.

One of the fundamental deficiencies in this type of legislation is the failure to link species protection to habitat protection, since habitat loss is the primary driving force behind most species loss. In addition,

habitat protection is rarely set within the larger context of ecosystem management. The legal and institutional profile should highlight these and other deficiencies where they exist.

Another problem is the reactionary nature of many species-based legal approaches. What is often missing are proactive affirmative means to ensure that species do not become threatened in the first place. This largely derives from a lack of scientific or other information, lack of management capacity and a failure to identify and mitigate potentially threatening processes and activities before they become a problem.

In addition to the legal and institutional aspects of threatened species protection, there are also legal and institutional implications for species recovery efforts. Sometimes protection and recovery measures will be found in the same law. A profile should note whether the country's laws provide for active institutional measures to promote the recovery and management of threatened species (de Klemm, 1993) and which institutions are involved.

The profile should describe what the designated agency is required to do to promote a species' recovery and the legal status of any recovery plans it is to promulgate and implement. Where recovery plans are required they may need to be combined with regulations and incentives to remove, or minimise the pressures which led to the species' decline in the first place (Glowka, *et al.*, 1994). Protecting reintroduced or re-established species from new threats may require legal action.

It may not be self-evident, but law is also needed to ensure that reintroduced or re-established species do not harm existing populations, or other species and ecosystems. This implies some assessment of environmental impact and, at a minimum, the application of quarantine measures, both of which have a basis in law.

#### **4.2.2.3 Regulate or Manage Biological Resources Important for Biological Diversity Conservation (article 8(c)) and Adopt Measures for Using Biological Resource to Avoid or Minimise Impacts on Biological Diversity (article 10(b))**

Article 10(b) focuses on the harm which occurs to biological diversity when biological resources are

used. Article 8(c) focuses on harm to the resource itself when it is used. Both articles 8(c) and 10(b)

apply inside and outside of protected areas, although only article 8(c) makes this explicit. Both obligations embody key principles of sustainability.

A threshold question for a legal and institutional profile to address is whether species-based legal and institutional measures take into consideration the conservation of biological diversity in its broader sense, not just in the context of a particular listed species.

For example, if a law establishes a regulatory programme to regulate logging of a particular species of tree, does it require the implementation agency to consider the impact of the take both on the target species *and* other components of biological diversity whether at ecosystem, species or genetic levels? At a minimum, a country's legal and institutional approaches to species-based measures need to account for harm to the species used, as well as harm to biological diversity when the species is used.

Agriculture, hunting, fishing and forestry laws should be specifically reviewed by the profile, especially to ascertain whether they include biodiversity considerations. The profile might also determine whether the laws require scientific information gathering, management plans and incentive measures. Intersections with the customary use of biological resources are also relevant (Section 4.3).

Trade in organisms and their derivatives, at the domestic and international levels, is an activity which greatly impacts biological diversity, even though it is not specifically addressed by the Convention. It is a

multi-billion dollar a year global activity, some of which involves illegal trafficking.

Trade as an issue can be addressed by the legal and institutional profile in the context of species-based measures to regulate or control it, or as an activity which may threaten biological diversity (Section 5.0).

Regulating or managing domestic or international trade has direct links with a country's species protection and species use laws. Targeted species may already be threatened or endangered or trade pressures may lead to a compromised conservation status.

The profile should describe the legal and institutional situation with regard to the species trade. Implicated are such biological resources as fish, game, genetic resources, medicinal plants and timber. Furthermore, because new trading activities may be licensed by the government, the profile could indicate whether linkages exist with species protection and environmental impact assessment requirements.

If an organism or its derivatives move internationally, an export and import license may be required from customs or other management authorities, especially in the context of threatened and endangered species listed under the appendices of the Convention on Trade in Endangered Species of Wild Fauna and Flora (CITES) (1973). The profile should examine the legal and institutional situation in the country with regard to implementing CITES, in particular whether scientific and management authorities have been created. An evaluation of the effectiveness of measures taken to implement CITES should be provided.

### **4.2.3 *Ex-situ* Actions Involving Species (article 9)**

The *ex-situ* conservation measures of the Convention on Biological Diversity are meant to complement its *in-situ* conservation measures (article 9). "*Ex-situ* conservation" is defined in the Convention as "the conservation of components of biological diver-

sity outside their natural habitats" (article 2). Even though *ex-situ* conservation is largely a scientific or administrative activity, there are relevant intersections with law.

#### **4.2.3.1 *Ex-situ* Species Conservation Measures (article 9(a))**

The primary areas where *ex-situ* conservation measures intersect with law include collecting and curating biological materials, research on and importing and exporting of biological materials.

Informed consent prior to collection, property rights over the collected specimens, as well as who has access to the materials stored, are all issues which

should be addressed in the profile. They are especially related to implementation of article 15 of the Convention on Biological Diversity which addresses access to genetic resources (Section 4.3).

Reintroducing or re-establishing species also have legal implications (article 9(c)). They should be addressed in the profile (Sections 4.2.2.2 and 5.4).

#### **4.2.3.2 Establish and Maintain *Ex-situ* Conservation Facilities (article 9(b))**

Establishing and maintaining an *ex-situ* conservation facility likely requires securing a number of regula-

tory approvals from government officials. While these regulatory approvals should probably not be specifi-

cally addressed in a profile, any significant legal or institutional barriers to establishing such facilities could be highlighted and evaluated, especially if they ultimately impact on the country's ability to fulfil the Convention's obligations.

The profile could describe what incentive measures are provided to establish or maintain *ex-situ* conservation facilities and what the current legal and institutional obstacles are to maintaining them.

#### 4.2.3.3 Regulate or Manage Biological Resource Collecting From Natural Habitats for *Ex-situ* Conservation Purposes (article 9(d))

Collecting biological materials for *ex-situ* conservation purposes is a sub-set of the larger issue of sustainable use. Collecting, even if undertaken for what appear to be valid scientific reasons, may threaten biological diversity. Collecting in general needs to be managed to ensure sustainability. Therefore, the legal and institutional profile should address the general issue, as well as the narrower issue embodied in article 9(d) which focuses on collecting for *ex-situ* conservation purposes so as not to threaten ecosystems and *in-situ* populations of species.

The problem of collecting for *ex-situ* conservation purposes is perhaps more acute for animals than for plants in terms of threat but the threats to plants should not be overlooked. Even collecting for micro-organisms in unique environments may pose risks to the organism's environment without proper precautions (Glowka, 1996).

Requiring a permit to collect all organisms for a range of specified purposes, including for *ex-situ* conservation, could be a first step towards implementing article 9(d). Linkages to the State's laws on environmental impact assessment, species use and protection, and protected areas should also be reviewed.

A legal and institutional profile should examine existing laws for licensing provisions and highlight which institutions are involved. Permit requirements for research and specimen exportation could also be reviewed (Section 4.2.2.3). The criteria for determining the sustainability of collecting should be described.

Work on this provision is also relevant to the Convention's provisions on access to genetic resources (Section 4.3).

### 4.3 Genetic Resource-based Measures

It is unknown whether specific legal and institutional measures on genetic resources exist in any countries. If genetic resources are treated at all, this would likely be in the context of other themes. For example, ecosystem or species-based measures may use threats to genetic resources or genetic diversity as a basis for establishing a protected area or listing a particular species for protection. One of the many reasons to collect for *ex-situ* conservation purposes is to conserve genetic resources and maintain genetic diversity. Therefore, laws in these areas may designate the conservation of genetic diversity and the sustainable use of genetic resources as a goal triggering broader action.

With the entry into force of the Convention on Biological Diversity, Contracting Parties will now need to review their laws to ensure that genetic diversity considerations are included. Therefore, at a minimum, the legal and institutional profile must identify instances where genetic diversity considerations may not be adequately addressed. For example, can a protected area be created to conserve genetic resources? Does a country's legislation on environmental impact assessment address impacts to genetic diversity?

The Convention's entry into force has also created an entire new area of international law: fair and equitable benefit sharing for the use of genetic resources.

Ensuring this is the third objective of the Convention. The remainder of this section addresses that issue.

Article 15 of the Convention on Biological Diversity defines the rights and obligations between its Parties regarding access to genetic resources: access to genetic resources in exchange for a share of benefits derived from their use.

The access and benefit-sharing provisions of the Convention on Biological Diversity technically only apply to genetic resources or genetic material (article 2) found within a State's jurisdiction or control. However, in practice, States will likely regulate access to the biochemicals found within the biological resources they are associated with.

The details of the practical implementation of article 15 will be primarily defined at the national or sub-national levels by adapting existing or creating new laws and institutions. Ideally, a legal and institutional profile would analyse a country's situation both as a provider and user of *in-situ* and *ex-situ* genetic resources (Sections 4.3.1 and 4.3.2).

The primary burden of implementing the access and benefit-sharing provisions of the Convention rests with States providing genetic resources. As a provider of genetic resources, the adequacy of a country's exist-

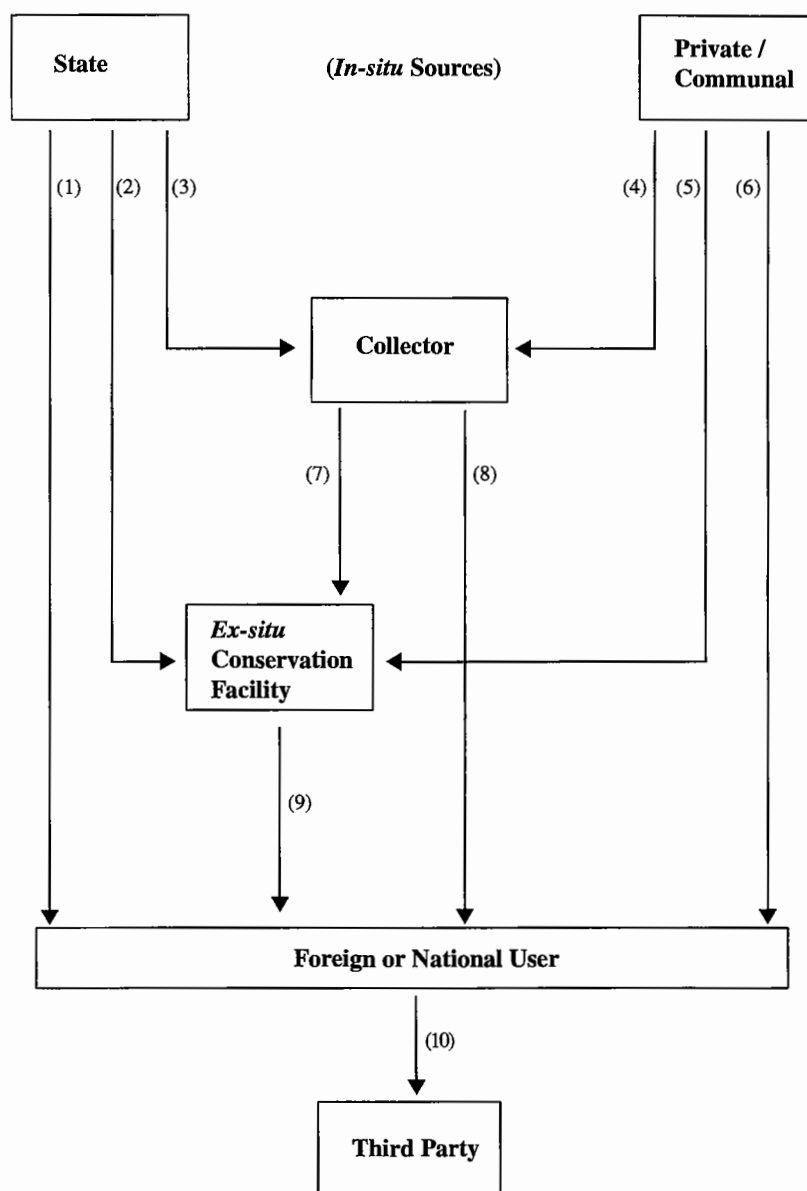
ing laws and institutions may be best evaluated in light of its supply strategy and its ultimate goals for benefit-sharing (Glowka, 1998), taking into consideration the possible genetic resource transactions which could be regulated (see Figure 4). Laws and institutions are merely tools for attaining these goals and not necessarily ends in and of themselves. Consequently, the profile should identify what legal and institutional measures are needed to attain the goals for benefit-sharing identified in other components of the biodiversity planning process.

In most cases, a State will not have a separate comprehensive law on access to genetic resources to

review. In these cases, the practitioner may need to review “surrogates” – related laws that may already embody some of the principles of the Convention’s access and benefit-sharing provisions but in a different context.

Good examples might include legislation which requires research permits or specimen collecting and export permits for biological materials. The profile should indicate whether these laws can be used to implement comprehensively the Convention’s access and benefit-sharing provisions presently or whether they could be effectively modified.

**Figure 4. Possible Genetic Resource Transactions Which Could Be Regulated**



Source: Peruvian Society for Environmental Law and IUCN Environmental Law Centre

### 4.3.1 Provider of Genetic Resources

#### 4.3.1.1 Legal Status of Genetic Material From Animals, Plants and Micro-organisms in *In-situ* and *Ex-situ* Conditions (article 15(1))

Article 15(1) reaffirms that States have sovereign rights over the genetic resources found within their jurisdiction, but it does not grant the State a property right over them (Glowka, *et al.*, 1994). Who owns genetic material within the country is a fundamental question which the Convention does not answer. This is typically determined by the country's constitution or national law.

Therefore, the profile should identify the property rights regime over animal, plant and microbial genetic resources found in *in-situ* and *ex-situ* conditions. The

legal status may be similar to that of wild, domesticated or cultivated animals, plants or micro-organisms (Section 4.2.1). Alternatively, the legal status of genetic resources may be related to that for natural resources in the country.

It may be useful for the profile to identify how the legal status of genetic resources is interpreted in law. In other words, is the owner of an organism or its parts also the owner of the genetic material embodied in them?

#### 4.3.1.2 Facilitate Access to Genetic Resources (article 15(2))

Article 15(2) requires each Party to create conditions to facilitate access to genetic resources. There are a variety of ways to implement this provision, but a profile could determine whether at a minimum, a country has a uniform policy on genetic resources access and benefit-sharing issues or whether an ef-

ficient legal framework exists to uniformly process requests for access.

The legal framework could be something newly introduced or it could be based around existing measures such as those for research on and collecting or export of biological resources.

#### 4.3.1.3 Negotiating Mutually Agreed Terms (article 15(4))

Article 15(4) stipulates that access is to be based on mutually agreed terms. This implies a negotiation between the providers and potential users of genetic resources. A successful negotiation could result in an access agreement.

Access agreements (or contracts) are likely to become the primary means for Parties to authorise access and establish the terms of benefit-sharing. Legislation will likely determine who is entitled to negotiate and enter into access agreements – whether the State or others. Rules on ownership of genetic resources will likely be key determining factors.

The profile should examine the current situation in the country on these issues. Some countries have specific rules on public contracting for natural resources, especially when public agencies are involved. The profile could highlight whether genetic resources

are considered natural resources in the country, which types of contract are allowed, which agency administers them, who can be party to them and how they can be enforced.

In addition, the profile could examine the ability of private parties to enter into access agreements for genetic resources and the implications of this especially in terms of enforcing the agreement. This is especially relevant to article 8(j) (respect, preserve and maintain the knowledge, innovations and practices of indigenous and local communities).

The profile could also highlight whether the State has entered into any bilateral agreements with other States involving technical or scientific cooperation. These may have an impact on attaining mutually agreed terms if legal or natural persons from either country seek access in the other.

#### 4.3.1.4 Prior Informed Consent (article 15(5))

Reaching mutually agreed terms with a potential user would be the condition precedent for prior informed consent of the Contracting Party providing genetic resources. In fact, mutually agreed terms could be reached within a procedure to gain consent.

Where a country does not already have a specific policy or procedure for access to *genetic resources*, a profile could examine existing mechanisms for obtaining consent to access *biological resources* for research, collecting or export – both in terms of law

and institutions. In addition, penalties for failure to comply with the law should be indicated.

The preceding commentary is premised on the desire of the country concerned to seek prior informed consent in the first place. In fact, the Convention on Biological Diversity presumes prior informed consent is required as between the Convention's Contracting Parties, unless the Party providing genetic resources determines otherwise. This qualifier indicates that a country is free to decide in what instances PIC will and will not apply. This could be accomplished on a case by case basis, for example, for certain genetic

resources or uses. It also could be accomplished in a blanket or all-encountering way.

All of this implies that a Contracting Party which elects not to apply PIC should make an affirmative declaration in law to that effect. If a country has elected this option, the legal and institutional profile should highlight whether or not affirmative measures have been taken in this regard. To do otherwise, could be interpreted as being contrary to the Convention's obligation for each Contracting Party to facilitate access to genetic resources for other Contracting Parties.

#### **4.3.1.5 Research Participation (articles 15(6) and 19(1))**

From the perspective of the State which is a target of genetic resources and, therefore has the right to participate in research on them, a profile might review a country's research policy (Section 3.6). Any laws related to undertaking research in the country should be reviewed for consistency with the Convention's access and benefit-sharing provisions. Which public research institutions are involved in research on biological and genetic resources might be identified as well as their mandates. This will help to ensure that, when someone seeks access, representa-

tives from the appropriate institutions within the country are involved in negotiating mutually agreed terms. Coastal States may wish to review their marine scientific research laws, taking as a cue the Part XIII marine scientific research provisions of the United Nations Convention on the Law of the Sea (1982).

The profile might also determine what bilateral scientific cooperation agreements exist which may have a bearing on implementing the obligation.

#### **4.3.1.6 Sharing Benefits (articles 15(7) and 19(2))**

Article 15(7) of the Convention on Biological Diversity requires each Contracting Party to take legislative, administrative or policy measures whose goal is the fair and equitable sharing of benefits with the Party providing genetic resources. Article 19(2) entitles a Party providing genetic resources to the results and benefits of biotechnology using the genetic resources on a preferential, fair and equitable basis, subject to mutually agreed terms. From the point of view of a provider of genetic resources, these obligations do little more than amplify the earlier provi-

sions of the article since the details of benefit-sharing will be worked out on a case by case basis in the process to negotiate mutually agreed terms. In fact, article 15(7) is more important to Parties to the Convention in which genetic resources are used (Section 4.3.2).

With regard to financial benefits, the profile might highlight whether legislation is in place enabling trust funds to be established within the country, particularly for directing benefits back down to the local level.

#### **4.3.2 User of Genetic Resources**

Although not explicit in the Convention, an obligation for Parties in which genetic resources are used can be discerned from article 15(7). A Contracting Party should take legislative, administrative or policy measures aimed at supporting fair and equitable benefit-sharing in other Contracting Parties from which its legal and natural persons are obtaining genetic resources.

The scope of this obligation is actually more clearly covered in part by Convention article 15(6) on research participation and articles 16(3) and 16(4), as well as 19(2), regarding transfer of technologies using genetic resources. With the exception of article 15(6), the obligations are subject to reaching mutu-

ally agreed terms. Details will largely be dealt with at the time access to genetic resources is sought.

There are some legal and institutional implications for States in which genetic resources are used. The profile should explore them. Article 15(6) aims to involve Contracting Parties providing genetic resources in the research undertaken by other Contracting Parties using the genetic resources. Article 19(1) is similar but applies to biotechnological research. States in which research on genetic resources takes place will require measures to ensure that governmental agencies involved in scientific research on genetic resources work towards developing joint research programmes with and, if possible, in those

Parties providing genetic resources. Legal requirements placed on the private sector should also be ascertained. A profile should highlight what legal and institutional steps have been taken to ensure this occurs.

Furthermore, public institutions or private organisations or individuals receiving government funding could be legally required to ensure mutually agreed terms are reached and informed consent is obtained prior to access to genetic resources. Private legal and natural persons could be required to do the same, even if they do not receive government money.

Public and private importers of genetic resources could be required to demonstrate export has been pursuant to the prior informed consent of the exporting State. Users of genetic resources could be required to demonstrate prior informed consent prior to obtaining intellectual property protection or licensing approval for technologies which use genetic resources. Whether legal standing exists for providers of genetic resources could be confirmed where there is evidence of theft of genetic resources or breach of contract. In all cases, the legal and institutional profile might review whether these types of provisions exist and suggest possibilities for adapting existing mechanisms.

## 5.0 Identify and Evaluate Legal and Institutional Measures Applicable to Categories of Sectoral Activities Affecting Biological Diversity

The Convention on Biological Diversity is innovative for requiring Parties to identify processes and categories of activities which have or are likely to have significant adverse impacts on biological diversity conservation and sustainable use (article 7(c)). It then requires Parties to regulate or manage those identified (article 8(l)). The obligations apply to existing and future processes and activities. Consequently, they are quite broad and potentially very powerful if implemented fully.

Fundamental to limiting the negative impacts of damaging or potentially damaging activities is establishing effective legislatively-based requirements to identify them and subsequently regulate or manage them. Regulatory and management programmes should be supplemented by incentive measures. Regulatory or management programmes, and those involving incentives, must be supervised by appropriate institutions.

Area-based and activity-specific planning controls, such as land use controls, permitting requirements for potentially harmful activities supplemented by incentive measures and environmental impact assessment and licensing for specific uses, will likely be the primary means for assessing, preventing, eliminating or mitigating potential and existing threats to biological diversity.

The key step to identifying legal and institutional measures applicable to processes and activities affecting biological diversity is to determine which processes and activities contribute to the loss of biodiversity in the country. To do this, the profile team can use existing scientific and policy reports, studies and inventories to determine the main threats to biodiversity. Where these are not available the information may need to be commissioned.

Some of the processes which threaten biological diversity may be broadly grouped into three categories:

- habitat fragmentation or loss;
- over-exploitation or disturbance of animal and plant species or the natural resources they depend upon; and
- soil, water and atmospheric degradation (WRI, IUCN and UNEP, 1992).

These processes are generated by individual human activities which will be the ultimate subjects for regulation or management. Some types of human activity (e.g., disposing of wastes, urbanization or the introduction of invasive alien species) almost always generate processes damaging to biological diversity. Other types of activity (e.g., fishing, agriculture or forestry)

may be consistent with sustainable use within certain limits, but can generate damaging processes if they exceed the carrying capacity of the terrestrial, aquatic or marine systems concerned (Shine and Glowka, 1998).

For purposes of subsequent analysis of this component of the knowledge base, the profile team could list the main processes associated with the loss of biodiversity. Then, under each heading, the sectors responsible for activities contributing to the particular process could be listed along with the activities themselves. Relevant sectors are listed in Figure 3. The information collected will provide a technical “backdrop” against which the team can then identify, correlate and subsequently evaluate the legal and institutional basis for the particular activity identified (Shine and Glowka, 1998).

Identifying threatening or potentially threatening activities is a prerequisite to ultimately regulating or managing them. The Convention on Biological Diversity itself only specifically mentions three:

- the use and release of living modified organisms (Section 5.3);
- alien species (Section 5.4); and
- collecting for *ex-situ* conservation purposes (Section 4.2.3.3).

But there are potentially many more and their continued identification should be legislatively required, perhaps in the context of the biodiversity planning process. Responsible institutions should be identified to regulate or manage them.

Questions of institutional jurisdiction (Section 3.1) over processes and activities in the country should also be addressed by the profile, highlighting institutional competencies, overlaps and gaps. This will need to be closely associated to the particular threat or threats posed to biodiversity.

Which institution responds to a particular threat may be described by the species or area concerned, the environment or the type of threat. For example, threats to biodiversity posed by water pollution may need to be addressed by a country’s water or environmental ministry.

At a minimum, the legal and institutional profile should indicate which tools for identifying threatening processes and activities are provided for in law. For example, is environmental impact assessment required (Section 5.1)? Legal and institutional tools available for regulating or managing the processes identified should also be identified and evaluated.

## 5.1 Environmental Impact Assessment Procedures for Projects, Programmes and Policies (article 14(1)(a) and (b))

The Convention on Biological Diversity requires each Party to introduce procedures requiring environmental impact assessment of its proposed projects likely to have significant adverse effects on biological diversity (article 14(1)(a)). Public participation is to be allowed as appropriate (Section 3.4). The aim is to avoid or minimise significant adverse effects on biological diversity before a project is undertaken.

In addition, a Party is to introduce appropriate arrangements to ensure that the environmental consequences of its programmes and policies which are likely to have significant adverse impacts on biological diversity are duly taken into account (article 14(1)(b)). But while the scope of the paragraphs clearly apply to a Party's programmes or policies, a Party has wide discretion to determine which projects require EIA – whether public, private or both. There is also discretion for interpreting “significant adverse effects”. In most instances, implementation of these provisions will require legislation.

In relation to biological diversity, three purposes of EIA could be to identify in advance:

- what aspects of the project are likely to have significant adverse effects on biological diversity at the genetic, species and ecosystem levels;
- what steps could be taken to avoid or minimise significant adverse effects; and
- whether the proposed project complies with existing environmental legislation.

At a minimum, the profile should identify whether a country has introduced EIA policies or legislation and whether biological diversity considerations are factored into the assessment process.

Other legal and institutional considerations could include:

- what projects, programmes and policies are subjected to EIA;
- the adequacy of the review procedure required;
- who is required to undertake the EIA (e.g., governmental agency or project proponent);
- who is required to review the EIA (e.g., which governmental agency is overseeing the assessment);
- the assessment criteria to determine impacts on biodiversity, including individual and cumulative impacts;
- whether the requirements exist to review the proposal for compliance with other existing environmental law;
- whether an analysis of alternatives to the project proposed is required and whether criteria exist for judging them;
- the form and level of public participation and access to information (Section 3.4);
- the form of the report to be produced;
- the effects of the EIA results on the project approval procedure; and
- whether a procedure is required to evaluate and mitigate the project's actual impacts on biological diversity after it is completed.

The profile might also determine whether a two-step assessment process exists. This could include a short, preliminary evaluation of possible impacts to be followed up by a second more complete environmental impact analysis where adverse impacts are likely.

Finally, the profile should determine whether a right of action and legal standing for private parties is available and in what instances it is available.

## 5.2 Compatibility Between Present Uses and Conservation/Sustainable Use of Biological Diversity (article 8(i))

For existing activities, the profile should also consider the availability through law of tools for assessing the compatibility of present uses with the conservation and sustainable use of biological diversity. The profile might highlight whether monitoring systems for current activities exist, including inspections, and

whether environmental assessments, sometimes called environmental audits, are required.

Which agencies have these tools at their disposal and whether the agencies have the power to re-orient existing activities or completed projects to minimise impacts on biological diversity should be examined.

## 5.3 Living Modified Organisms (LMOs)

### 5.3.1 Use and Release of LMOs (article 8(g))

The Convention on Biological Diversity identifies the risks associated with use and release of living modi-

fied organisms (LMOs) resulting from biotechnology as something which should be regulated, managed or

controlled because of the potential for adverse environmental impacts (article 8(g)). These could consequently adversely affect the conservation and sustainable use of biological diversity.

The Convention does not define “LMOs resulting from biotechnology”. The concept is very broad, covering all organisms – whether plants, animals or microbes – resulting from biotechnology that are alive (Glowka, et al., 1994).

The profile should identify what legal and institutional measures the country has put in place to implement

article 8(g), including:

- the legal definition of LMOs;
- whether permits are required to use and release LMOs;
- whether risk and environmental impact assessments and their evaluation are required as prerequisites to a permit; and
- which institutions oversee the procedure.

In addition, controls on the import of LMOs could be identified by the profile.

### 5.3.2 Information About Use and Release Prior to International Exchange (article 19(4))

Article 19(4) of the Convention on Biological Diversity creates a bilateral obligation between Parties to provide information on an LMO prior to providing it to another Contracting Party. A Contracting Party’s government or its nationals, either of which could export the LMO, must supply the information.

Two categories of information are to be provided:

- any available information on the regulatory measures taken by the exporting State concerning the use and safety of LMOs in general; and
- any available information on the potential

adverse impact of a particular LMO.

Fulfilling the requirement will likely require complementary legislation in both importing and exporting countries. Among other things, the profile should examine whether:

- any legislation exists and what it provides for;
- what institutions provide oversight; and
- what possibilities for legal recourse exist if the information provided is either fraudulent, incorrect or is provided after an LMO is imported.

### 5.4 Alien Species (article 8(h))

Invasive alien species represent an enormous threat to biological diversity and sustainable development. Article 8(h) of the Convention on Biological Diversity requires Parties to prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species. The requirement goes beyond organisms of quarantine concern which are typically addressed in national legislation, to include all organisms which threaten biological diversity.

Preventing alien species introductions implies creating laws and institutions which are geared toward intentional and unintentional introductions. For intentional introductions, the profile should identify existing regulatory programmes, including quarantine systems, focusing not only on alien species’ importation into the country, but also on the availability of controls for introductions between one part of the country and another. The application of risk and environmental assessment tools should be identified.

Unintentional introductions are more difficult to directly prevent through a regulatory programme, because risky pathways must first be identified. They also tend to be closely associated with global change

or globalization processes such as habitat loss and trade.

Important pathways will vary according to the country concerned, but generally include:

- agriculture;
- ballast water discharge;
- captive breeding operations;
- construction;
- fisheries (including aquaculture and sport fishing);
- forestry;
- ground and air transport;
- horticulture and landscaping;
- the pet trade;
- shipping; and
- tourism.

These and other pathways should be identified in other components of the biodiversity planning process.

The profile should examine whether laws and institutions to address alien species, including those involving quarantine, have been developed with regard to

intentional and unintentional introductions. A general description of legal and institutional measures on alien species could be supplemented by a pathway by pathway analysis. Importantly, the profile should determine whether the legal and institutional approach taken has helped or hindered the country's efforts.

Controlling or eradicating invasive species also has legal and institutional aspects which a profile should

address. Laws should designate which institutions are to respond when an outbreak is identified and whether they have adequate jurisdictional power and resources to take action. For example, can representatives of an agency enter private property to identify, eradicate or control an introduction before it spreads? The profile should indicate whether the authorities have access to emergency funding when the need to take action arises.

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## 6.0 Recommend Necessary Legal and Institutional Changes

Once the profile team has evaluated the strengths and weakness of the country's legal and institutional framework, it may consider at least three types of recommendation as outputs of the legal and institutional profile process (Shine and Glowka, 1998).

Firstly, and as a priority, the profile team should recommend removing legal and institutional measures which contribute to the loss of biological diversity. Where this is impracticable in the short term, all possible steps should be taken to reduce progressively the scope of such measures.

Secondly, the profile team should identify and recommend ways in which existing legal and institutional measures can be implemented more effectively without the need for new laws or regulations.

Thirdly, the profile team should identify and prioritise areas where laws and institutions should be upgraded or consolidated or where new legal instruments should be developed.

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## 7.0 Final Considerations: Other Topics to Cover in the Profile

To maximise its usefulness, the profile should also describe some very basic information about the country including:

- the form of government in the country and its administrative framework (Section 7.1);

- the country's legal system (Section 7.2); and
- how environmental management matters are dealt with in the country (Section 7.3).

### 7.1 Describe the Country's Form of Government and Administrative Framework

The country's form of government and its administrative system have a direct bearing on the ability to draft and enact environmental law and should be described in the profile report.

The profile should also describe the constitutional division of powers within the country. The division of responsibilities between federal/central, state/provincial and local authorities should be described as well.

### 7.2 Describe the Country's Legal System

The country's legal system has a direct bearing on enacting and implementing environmental law.

A profile's description should include, for example, whether the country is a civil or common law country. An overview of the country's law making process, its court system, the legal status of treaties in law and the legal status of policy in the country should be included. The profile might highlight the legal authority relied upon within the country and the role of the judiciary.

As they pertain to biological diversity a profile should briefly review the country's:

- Criminal code and relevant significant court decisions; and
- Civil code and relevant significant court decisions.

Relevant procedural norms, such as standing to sue on environmental matters, should also be described.

### 7.3 Describe the Country's Environmental Management System

The country's biodiversity-related activities will be implemented within its broader environmental management framework. Consequently, it will be worthwhile for the profile to describe the environmental management system in the country. If the profile will be a stand alone document, the country's environment and development situation, including the state of biodiversity, should also be very briefly summarised.

The profile should identify the administrative agencies responsible for environmental management and their relevancy to biodiversity conservation and sustainable use.

It is essential to describe the existing policy framework. This includes socio-economic or development, environmental and biodiversity policies (see Figure 2).

While describing the country's environment management system, the profile should also address the major principles upon which the environmental management system is based. For example, does the country's system reflect the principles of public participation, access to environmental information, polluter pays, prevention and precaution? The preamble of the Convention on Biological Diversity and the Rio Declaration are good primary sources for these and other principles.

A variety of actors, both national and foreign, operate within the country and their actions positively or negatively affect the country's environment. The profile should describe who the primary actors affecting environmental management are and what their effects are.

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## 8.0 Organising the Profile Report

Organising and presenting the profile in a report has direct bearing on a profile's usefulness in the biodiversity planning process.

Two of the IUCN consultants found that organising and presenting the information they collected was difficult, particularly for cross-cutting issues. This was because their countries each had a great deal of overlapping law. One consultant was surprised to find that there was a lot of relevant law already in place. Another consultant was surprised by how confused the legal situation in his country was.

Ultimately the profile team must decide how to usefully organise and present the information collected. But some cues can be taken from the Convention on Biological Diversity itself.

As suggested earlier, legal and institutional measures can be organised into two broad categories. The report could be structured around these with the Convention's more detailed obligations organised under each. The analytical framework on biodiversity-related measures provided in this publication is structured in this way.

Alternatively, the report could be organised accord-

ing to biodiversity management issues or threats. For each issue or threat addressed, the report could systematically address laws and institutions as appropriate.

Ideally, the report would include a table or list of legal citations as an appendix. This could be a simple list or it could be organised according to the Convention's obligations, by management issue or by threat. Laws collected and collated, including international instruments, could be presented as an appendix to the report.

An executive summary might be provided. It could succinctly summarise (1) major findings and (2) key recommendations. Follow-up activities might be proposed as well.

An introduction might describe the purpose of the project and the methodology used. The introduction could also describe the project's relevancy to the country studied including existing or proposed biodiversity measures (legal and non-legal), such as a biodiversity planning process.

Major findings and recommendations could be found in a conclusion at the end of the report.

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## Appendix 1. Convention on Biological Diversity

### *Preamble*

#### *The Contracting Parties,*

*Conscious* of the intrinsic value of biological diversity and of the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components,

*Conscious also* of the importance of biological diversity for evolution and for maintaining life sustaining systems of the biosphere,

*Affirming* that the conservation of biological diversity is a common concern of humankind,

*Reaffirming* that States have sovereign rights over their own biological resources,

*Reaffirming also* that States are responsible for conserving their biological diversity and for using their biological resources in a sustainable manner,

*Concerned* that biological diversity is being significantly reduced by certain human activities,

*Aware* of the general lack of information and knowledge regarding biological diversity and of the urgent need to develop scientific, technical and institutional capacities to provide the basic understanding upon which to plan and implement appropriate measures,

*Noting* that it is vital to anticipate, prevent and attack the causes of significant reduction or loss of biological diversity at source,

*Noting also* that where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat,

*Noting further* that the fundamental requirement for the conservation of biological diversity is the *in-situ* conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings,

*Noting further* that *ex-situ* measures, preferably in the country of origin, also have an important role to play,

*Recognizing* the close and traditional dependence of many indigenous and local communities embodying traditional lifestyles on biological resources, and the desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices relevant to the conservation of biological diversity and the sustainable use of its components,

*Recognizing also* the vital role that women play in the conservation and sustainable use of biological diversity and affirming the need for the full participation of women at all levels of policy-making and implementation for biological diversity conservation,

*Stressing* the importance of, and the need to promote, international, regional and global cooperation among States and intergovernmental organizations and the non-governmental sector for the conservation of biological diversity and the sustainable use of its components,

*Acknowledging* that the provision of new and additional financial resources and appropriate access to relevant technologies can be expected to make a substantial difference in the world's ability to address the loss of biological diversity,

*Acknowledging further* that special provision is required to meet the needs of developing countries, including the provision of new and additional financial resources and appropriate access to relevant technologies,

*Noting* in this regard the special conditions of the least developed countries and small island States,

*Acknowledging* that substantial investments are required to conserve biological diversity and that there is the expectation of a broad range of environmental, economic and social benefits from those investments,

*Recognizing* that economic and social development and poverty eradication are the first and overriding priorities of developing countries,

*Aware* that conservation and sustainable use of biological diversity is of critical importance for meeting the food, health and other needs of the growing world population, for which purpose access to and sharing of both genetic resources and technologies are essential,

*Noting* that, ultimately, the conservation and sustainable use of biological diversity will strengthen friendly relations among States and contribute to peace for humankind,

*Desiring* to enhance and complement existing international arrangements for the conservation of biological diversity and sustainable use of its components, and

*Determined* to conserve and sustainably use biological diversity for the benefit of present and future generations,

Have agreed as follows:

#### *Article 1. Objectives*

The objectives of this Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.

#### *Article 2. Use of Terms*

For the purposes of this Convention:

"*Biological diversity*" means the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

"*Biological resources*" includes genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity.

"*Biotechnology*" means any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use.

"*Country of origin of genetic resources*" means the country which possesses those genetic resources in *in-situ* conditions.

"*Country providing genetic resources*" means the country supplying genetic resources collected from *in-situ* sources, including populations of both wild and domesticated species, or taken from *ex-situ* sources, which may or may not have originated in that country.

"*Domesticated or cultivated species*" means species in which the evolutionary process has been influenced by humans to meet their needs.

"*Ecosystem*" means a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.

"*Ex-situ conservation*" means the conservation of components of biological diversity outside their natural habitats.

"*Genetic material*" means any material of plant, animal, microbial or other origin containing functional units of heredity.

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"*Genetic resources*" means genetic material of actual or potential value.

"*Habitat*" means the place or type of site where an organism or population naturally occurs.

"*In-situ conditions*" means conditions where genetic resources exist within ecosystems and natural habitats, and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties.

"*In-situ conservation*" means the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties.

"*Protected area*" means a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives.

"*Regional economic integration organization*" means an organization constituted by sovereign States of a given region, to which its member States have transferred competence in respect of matters governed by this Convention and which has been duly authorized, in accordance with its internal procedures, to sign, ratify, accept, approve or accede to it.

"*Sustainable use*" means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

"*Technology*" includes biotechnology.

### *Article 3. Principle*

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

### *Article 4. Jurisdictional Scope*

Subject to the rights of other States, and except as otherwise expressly provided in this Convention, the provisions of this Convention apply, in relation to each Contracting Party:

- (a) In the case of components of biological diversity, in areas within the limits of its national jurisdiction; and
- (b) In the case of processes and activities, regardless of where their effects occur, carried out under its jurisdiction or control, within the area of its national jurisdiction or beyond the limits of national jurisdiction.

### *Article 5. Cooperation*

Each Contracting Party shall, as far as possible and as appropriate, cooperate with other Contracting Parties, directly or, where appropriate, through competent international organizations, in respect of areas beyond national jurisdiction and on other matters of mutual interest, for the conservation and sustainable use of biological diversity.

### *Article 6. General Measures for Conservation and Sustainable Use*

Each Contracting Party shall, in accordance with its particular conditions and capabilities:

- (a) Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes which shall reflect, *inter alia*, the measures set out in this Convention relevant to the Contracting Party concerned; and
- (b) Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.

*Article 7. Identification and Monitoring*

Each Contracting Party shall, as far as possible and as appropriate, in particular for the purposes of Articles 8 to 10:

- (a) Identify components of biological diversity important for its conservation and sustainable use having regard to the indicative list of categories set down in Annex I;
- (b) Monitor, through sampling and other techniques, the components of biological diversity identified pursuant to subparagraph (a) above, paying particular attention to those requiring urgent conservation measures and those which offer the greatest potential for sustainable use;
- (c) Identify processes and categories of activities which have or are likely to have significant adverse impacts on the conservation and sustainable use of biological diversity, and monitor their effects through sampling and other techniques; and
- (d) Maintain and organize, by any mechanism data, derived from identification and monitoring activities pursuant to subparagraphs (a), (b) and (c) above.

*Article 8. In-situ Conservation*

Each Contracting Party shall, as far as possible and as appropriate:

- (a) Establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity;
- (b) Develop, where necessary, guidelines for the selection, establishment and management of protected areas or areas where special measures need to be taken to conserve biological diversity;
- (c) Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use;
- (d) Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings;
- (e) Promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of these areas;
- (f) Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, *inter alia*, through the development and implementation of plans or other management strategies;
- (g) Establish or maintain means to regulate, manage or control the risks associated with the use and release of living modified organisms resulting from biotechnology which are likely to have adverse environmental impacts that could affect the conservation and sustainable use of biological diversity, taking also into account the risks to human health;
- (h) Prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species;
- (i) Endeavour to provide the conditions needed for compatibility between present uses and the conservation of biological diversity and the sustainable use of its components;
- (j) Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices;
- (k) Develop or maintain necessary legislation and/or other regulatory provisions for the protection of threatened species and populations;

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(l) Where a significant adverse effect on biological diversity has been determined pursuant to Article 7, regulate or manage the relevant processes and categories of activities; and

(m) Cooperate in providing financial and other support for *in-situ* conservation outlined in subparagraphs (a) to (l) above, particularly to developing countries.

#### *Article 9. Ex-situ Conservation*

Each Contracting Party shall, as far as possible and as appropriate, and predominantly for the purpose of complementing *in-situ* measures:

(a) Adopt measures for the *ex-situ* conservation of components of biological diversity, preferably in the country of origin of such components;

(b) Establish and maintain facilities for *ex-situ* conservation of and research on plants, animals and micro-organisms, preferably in the country of origin of genetic resources;

(c) Adopt measures for the recovery and rehabilitation of threatened species and for their reintroduction into their natural habitats under appropriate conditions;

(d) Regulate and manage collection of biological resources from natural habitats for *ex-situ* conservation purposes so as not to threaten ecosystems and *in-situ* populations of species, except where special temporary *ex-situ* measures are required under subparagraph (c) above; and

(e) Cooperate in providing financial and other support for *ex-situ* conservation outlined in subparagraphs (a) to (d) above and in the establishment and maintenance of *ex-situ* conservation facilities in developing countries.

#### *Article 10. Sustainable Use of Components of Biological Diversity*

Each Contracting Party shall, as far as possible and as appropriate:

(a) Integrate consideration of the conservation and sustainable use of biological resources into national decision-making;

(b) Adopt measures relating to the use of biological resources to avoid or minimize adverse impacts on biological diversity;

(c) Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements;

(d) Support local populations to develop and implement remedial action in degraded areas where biological diversity has been reduced; and

(e) Encourage cooperation between its governmental authorities and its private sector in developing methods for sustainable use of biological resources.

#### *Article 11. Incentive Measures*

Each Contracting Party shall, as far as possible and as appropriate, adopt economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biological diversity.

#### *Article 12. Research and Training*

The Contracting Parties, taking into account the special needs of developing countries, shall:

(a) Establish and maintain programmes for scientific and technical education and training in measures for the identification, conservation and sustainable use of biological diversity and its components and provide support for such education and training for the specific needs of developing countries;

(b) Promote and encourage research which contributes to the conservation and sustainable use of biological diversity, particularly in developing countries, *inter alia*, in accordance with decisions of the Conference of the Parties taken in consequence of recommendations of the Subsidiary Body on Scientific, Technical and Technological Advice; and

(c) In keeping with the provisions of Articles 16, 18 and 20, promote and cooperate in the use of scientific advances in biological diversity research in developing methods for conservation and sustainable use of biological resources.

*Article 13. Public Education and Awareness*

The Contracting Parties shall:

(a) Promote and encourage understanding of the importance of, and the measures required for, the conservation of biological diversity, as well as its propagation through media, and the inclusion of these topics in educational programmes; and

(b) Cooperate, as appropriate, with other States and international organizations in developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity.

*Article 14. Impact Assessment and Minimizing Adverse Impacts*

1. Each Contracting Party, as far as possible and as appropriate, shall:

(a) Introduce appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimizing such effects and, where appropriate, allow for public participation in such procedures;

(b) Introduce appropriate arrangements to ensure that the environmental consequences of its programmes and policies that are likely to have significant adverse impacts on biological diversity are duly taken into account;

(c) Promote, on the basis of reciprocity, notification, exchange of information and consultation on activities under their jurisdiction or control which are likely to significantly affect adversely the biological diversity of other States or areas beyond the limits of national jurisdiction, by encouraging the conclusion of bilateral, regional or multilateral arrangements, as appropriate;

(d) In the case of imminent or grave danger or damage, originating under its jurisdiction or control, to biological diversity within the area under jurisdiction of other States or in areas beyond the limits of national jurisdiction, notify immediately the potentially affected States of such danger or damage, as well as initiate action to prevent or minimize such danger or damage; and

(e) Promote national arrangements for emergency responses to activities or events, whether caused naturally or otherwise, which present a grave and imminent danger to biological diversity and encourage international cooperation to supplement such national efforts and, where appropriate and agreed by the States or regional economic integration organizations concerned, to establish joint contingency plans.

2. The Conference of the Parties shall examine, on the basis of studies to be carried out, the issue of liability and redress, including restoration and compensation, for damage to biological diversity, except where such liability is a purely internal matter.

*Article 15. Access to Genetic Resources*

1. Recognizing the sovereign rights of States over their natural resources, the authority to determine access to genetic resources rests with the national governments and is subject to national legislation.

2. Each Contracting Party shall endeavour to create conditions to facilitate access to genetic resources for environmentally sound uses by other Contracting Parties and not to impose restrictions that run counter to the objectives of this Convention.

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3. For the purpose of this Convention, the genetic resources being provided by a Contracting Party, as referred to in this Article and Articles 16 and 19, are only those that are provided by Contracting Parties that are countries of origin of such resources or by the Parties that have acquired the genetic resources in accordance with this Convention.
  4. Access, where granted, shall be on mutually agreed terms and subject to the provisions of this Article.
  5. Access to genetic resources shall be subject to prior informed consent of the Contracting Party providing such resources, unless otherwise determined by that Party.
  6. Each Contracting Party shall endeavour to develop and carry out scientific research based on genetic resources provided by other Contracting Parties with the full participation of, and where possible in, such Contracting Parties.
  7. Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, and in accordance with Articles 16 and 19 and, where necessary, through the financial mechanism established by Articles 20 and 21 with the aim of sharing in a fair and equitable way the results of research and development and the benefits arising from the commercial and other utilization of genetic resources with the Contracting Party providing such resources. Such sharing shall be upon mutually agreed terms.

#### *Article 16. Access to and Transfer of Technology*

1. Each Contracting Party, recognizing that technology includes biotechnology, and that both access to and transfer of technology among Contracting Parties are essential elements for the attainment of the objectives of this Convention, undertakes subject to the provisions of this Article to provide and/or facilitate access for and transfer to other Contracting Parties of technologies that are relevant to the conservation and sustainable use of biological diversity or make use of genetic resources and do not cause significant damage to the environment.
2. Access to and transfer of technology referred to in paragraph 1 above to developing countries shall be provided and/or facilitated under fair and most favourable terms, including on concessional and preferential terms where mutually agreed, and, where necessary, in accordance with the financial mechanism established by Articles 20 and 21. In the case of technology subject to patents and other intellectual property rights, such access and transfer shall be provided on terms which recognize and are consistent with the adequate and effective protection of intellectual property rights. The application of this paragraph shall be consistent with paragraphs 3, 4 and 5 below.
3. Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, with the aim that Contracting Parties, in particular those that are developing countries, which provide genetic resources are provided access to and transfer of technology which makes use of those resources, on mutually agreed terms, including technology protected by patents and other intellectual property rights, where necessary, through the provisions of Articles 20 and 21 and in accordance with international law and consistent with paragraphs 4 and 5 below.
4. Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, with the aim that the private sector facilitates access to, joint development and transfer of technology referred to in paragraph 1 above for the benefit of both governmental institutions and the private sector of developing countries and in this regard shall abide by the obligations included in paragraphs 1, 2 and 3 above.
5. The Contracting Parties, recognizing that patents and other intellectual property rights may have an influence on the implementation of this Convention, shall cooperate in this regard subject to national legislation and international law in order to ensure that such rights are supportive of and do not run counter to its objectives.

#### *Article 17. Exchange of Information*

1. The Contracting Parties shall facilitate the exchange of information, from all publicly available sources, relevant to the conservation and sustainable use of biological diversity, taking into account the special needs of developing countries.
2. Such exchange of information shall include exchange of results of technical, scientific and socio-economic research, as well as information on training and surveying programmes, specialized knowledge, indigenous and traditional knowledge as such and in combination with the technologies referred to in Article 16, paragraph 1. It shall also, where feasible, include repatriation of information.

*Article 18. Technical and Scientific Cooperation*

1. The Contracting Parties shall promote international technical and scientific cooperation in the field of conservation and sustainable use of biological diversity, where necessary, through the appropriate international and national institutions.
2. Each Contracting Party shall promote technical and scientific cooperation with other Contracting Parties, in particular developing countries, in implementing this Convention, *inter alia*, through the development and implementation of national policies. In promoting such cooperation, special attention should be given to the development and strengthening of national capabilities, by means of human resources development and institution building.
3. The Conference of the Parties, at its first meeting, shall determine how to establish a clearing-house mechanism to promote and facilitate technical and scientific cooperation.
4. The Contracting Parties shall, in accordance with national legislation and policies, encourage and develop methods of cooperation for the development and use of technologies, including indigenous and traditional technologies, in pursuance of the objectives of this Convention. For this purpose, the Contracting Parties shall also promote cooperation in the training of personnel and exchange of experts.
5. The Contracting Parties shall, subject to mutual agreement, promote the establishment of joint research programmes and joint ventures for the development of technologies relevant to the objectives of this Convention.

*Article 19. Handling of Biotechnology and Distribution of its Benefits*

1. Each Contracting Party shall take legislative, administrative or policy measures, as appropriate, to provide for the effective participation in biotechnological research activities by those Contracting Parties, especially developing countries, which provide the genetic resources for such research, and where feasible in such Contracting Parties.
2. Each Contracting Party shall take all practicable measures to promote and advance priority access on a fair and equitable basis by Contracting Parties, especially developing countries, to the results and benefits arising from biotechnologies based upon genetic resources provided by those Contracting Parties. Such access shall be on mutually agreed terms.
3. The Parties shall consider the need for and modalities of a protocol setting out appropriate procedures, including, in particular, advance informed agreement, in the field of the safe transfer, handling and use of any living modified organism resulting from biotechnology that may have adverse effect on the conservation and sustainable use of biological diversity.
4. Each Contracting Party shall, directly or by requiring any natural or legal person under its jurisdiction providing the organisms referred to in paragraph 3 above, provide any available information about the use and safety regulations required by that Contracting Party in handling such organisms, as well as any available information on the potential adverse impact of the specific organisms concerned to the Contracting Party into which those organisms are to be introduced.

*Article 20. Financial Resources*

1. Each Contracting Party undertakes to provide, in accordance with its capabilities, financial support and incentives in respect of those national activities which are intended to achieve the objectives of this Convention, in accordance with its national plans, priorities and programmes.
2. The developed country Parties shall provide new and additional financial resources to enable developing country Parties to meet the agreed full incremental costs to them of implementing measures which fulfil the obligations of this Convention and to benefit from its provisions and which costs are agreed between a developing country Party and the institutional structure referred to in Article 21, in accordance with policy, strategy, programme priorities and eligibility criteria and an indicative list of incremental costs established by the Conference of the Parties. Other Parties, including countries undergoing the process of transition to a market economy, may voluntarily assume the obligations of the developed country Parties. For the purpose of this Article, the Conference of the Parties, shall at its first meeting establish a list of developed country Parties and other Parties which voluntarily assume the obligations of the developed country Parties. The Conference of the Parties shall periodically review and if necessary amend the list. Contribu-

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tions from other countries and sources on a voluntary basis would also be encouraged. The implementation of these commitments shall take into account the need for adequacy, predictability and timely flow of funds and the importance of burden-sharing among the contributing Parties included in the list.

3. The developed country Parties may also provide, and developing country Parties avail themselves of, financial resources related to the implementation of this Convention through bilateral, regional and other multilateral channels.

4. The extent to which developing country Parties will effectively implement their commitments under this Convention will depend on the effective implementation by developed country Parties of their commitments under this Convention related to financial resources and transfer of technology and will take fully into account the fact that economic and social development and eradication of poverty are the first and overriding priorities of the developing country Parties.

5. The Parties shall take full account of the specific needs and special situation of least developed countries in their actions with regard to funding and transfer of technology.

6. The Contracting Parties shall also take into consideration the special conditions resulting from the dependence on, distribution and location of, biological diversity within developing country Parties, in particular small island States.

7. Consideration shall also be given to the special situation of developing countries, including those that are most environmentally vulnerable, such as those with arid and semi-arid zones, coastal and mountainous areas.

#### *Article 21. Financial Mechanism*

1. There shall be a mechanism for the provision of financial resources to developing country Parties for purposes of this Convention on a grant or concessional basis the essential elements of which are described in this Article. The mechanism shall function under the authority and guidance of, and be accountable to, the Conference of the Parties for purposes of this Convention. The operations of the mechanism shall be carried out by such institutional structure as may be decided upon by the Conference of the Parties at its first meeting. For purposes of this Convention, the Conference of the Parties shall determine the policy, strategy, programme priorities and eligibility criteria relating to the access to and utilization of such resources. The contributions shall be such as to take into account the need for predictability, adequacy and timely flow of funds referred to in Article 20 in accordance with the amount of resources needed to be decided periodically by the Conference of the Parties and the importance of burden-sharing among the contributing Parties included in the list referred to in Article 20, paragraph 2. Voluntary contributions may also be made by the developed country Parties and by other countries and sources. The mechanism shall operate within a democratic and transparent system of governance.

2. Pursuant to the objectives of this Convention, the Conference of the Parties shall at its first meeting determine the policy, strategy and programme priorities, as well as detailed criteria and guidelines for eligibility for access to and utilization of the financial resources including monitoring and evaluation on a regular basis of such utilization. The Conference of the Parties shall decide on the arrangements to give effect to paragraph 1 above after consultation with the institutional structure entrusted with the operation of the financial mechanism.

3. The Conference of the Parties shall review the effectiveness of the mechanism established under this Article, including the criteria and guidelines referred to in paragraph 2 above, not less than two years after the entry into force of this Convention and thereafter on a regular basis. Based on such review, it shall take appropriate action to improve the effectiveness of the mechanism if necessary.

4. The Contracting Parties shall consider strengthening existing financial institutions to provide financial resources for the conservation and sustainable use of biological diversity.

#### *Article 22. Relationship with Other International Conventions*

1. The provisions of this Convention shall not affect the rights and obligations of any Contracting Party deriving from any existing international agreement, except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity.

2. Contracting Parties shall implement this Convention with respect to the marine environment consistently with the rights and obligations of States under the law of the sea.

*Article 23. Conference of the Parties*

1. A Conference of the Parties is hereby established. The first meeting of the Conference of the Parties shall be convened by the Executive Director of the United Nations Environment Programme not later than one year after the entry into force of this Convention. Thereafter, ordinary meetings of the Conference of the Parties shall be held at regular intervals to be determined by the Conference at its first meeting.

2. Extraordinary meetings of the Conference of the Parties shall be held at such other times as may be deemed necessary by the Conference, or at the written request of any Party, provided that, within six months of the request being communicated to them by the Secretariat, it is supported by at least one third of the Parties.

3. The Conference of the Parties shall by consensus agree upon and adopt rules of procedure for itself and for any subsidiary body it may establish, as well as financial rules governing the funding of the Secretariat. At each ordinary meeting, it shall adopt a budget for the financial period until the next ordinary meeting.

4. The Conference of the Parties shall keep under review the implementation of this Convention, and, for this purpose, shall:

(a) Establish the form and the intervals for transmitting the information to be submitted in accordance with Article 26 and consider such information as well as reports submitted by any subsidiary body;

(b) Review scientific, technical and technological advice on biological diversity provided in accordance with Article 25;

(c) Consider and adopt, as required, protocols in accordance with Article 28;

(d) Consider and adopt, as required, in accordance with Articles 29 and 30, amendments to this Convention and its annexes;

(e) Consider amendments to any protocol, as well as to any annexes thereto, and, if so decided, recommend their adoption to the parties to the protocol concerned;

(f) Consider and adopt, as required, in accordance with Article 30, additional annexes to this Convention;

(g) Establish such subsidiary bodies, particularly to provide scientific and technical advice, as are deemed necessary for the implementation of this Convention;

(h) Contact, through the Secretariat, the executive bodies of conventions dealing with matters covered by this Convention with a view to establishing appropriate forms of cooperation with them; and

(i) Consider and undertake any additional action that may be required for the achievement of the purposes of this Convention in the light of experience gained in its operation.

5. The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State not Party to this Convention, may be represented as observers at meetings of the Conference of the Parties. Any other body or agency, whether governmental or non-governmental, qualified in fields relating to conservation and sustainable use of biological diversity, which has informed the Secretariat of its wish to be represented as an observer at a meeting of the Conference of the Parties, may be admitted unless at least one third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure adopted by the Conference of the Parties.

*Article 24. Secretariat*

1. A secretariat is hereby established. Its functions shall be:

(a) To arrange for and service meetings of the Conference of the Parties provided for in Article 23;

(b) To perform the functions assigned to it by any protocol;

(c) To prepare reports on the execution of its functions under this Convention and present them to the Conference of the Parties;

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(d) To coordinate with other relevant international bodies and, in particular to enter into such administrative and contractual arrangements as may be required for the effective discharge of its functions; and

(e) To perform such other functions as may be determined by the Conference of the Parties.

2. At its first ordinary meeting, the Conference of the Parties shall designate the secretariat from amongst those existing competent international organizations which have signified their willingness to carry out the secretariat functions under this Convention.

*Article 25. Subsidiary Body on Scientific, Technical and Technological Advice*

1. A subsidiary body for the provision of scientific, technical and technological advice is hereby established to provide the Conference of the Parties and, as appropriate, its other subsidiary bodies with timely advice relating to the implementation of this Convention. This body shall be open to participation by all Parties and shall be multi-disciplinary. It shall comprise government representatives competent in the relevant field of expertise. It shall report regularly to the Conference of the Parties on all aspects of its work.

2. Under the authority of and in accordance with guidelines laid down by the Conference of the Parties, and upon its request, this body shall:

(a) Provide scientific and technical assessments of the status of biological diversity;

(b) Prepare scientific and technical assessments of the effects of types of measures taken in accordance with the provisions of this Convention;

(c) Identify innovative, efficient and state-of-the-art technologies and know-how relating to the conservation and sustainable use of biological diversity and advise on the ways and means of promoting development and/or transferring such technologies;

(d) Provide advice on scientific programmes and international cooperation in research and development related to conservation and sustainable use of biological diversity; and

(e) Respond to scientific, technical, technological and methodological questions that the Conference of the Parties and its subsidiary bodies may put to the body.

3. The functions, terms of reference, organization and operation of this body may be further elaborated by the Conference of the Parties.

*Article 26. Reports*

Each Contracting Party shall, at intervals to be determined by the Conference of the Parties, present to the Conference of the Parties, reports on measures which it has taken for the implementation of the provisions of this Convention and their effectiveness in meeting the objectives of this Convention.

*Article 27. Settlement of Disputes*

1. In the event of a dispute between Contracting Parties concerning the interpretation or application of this Convention, the parties concerned shall seek solution by negotiation.

2. If the parties concerned cannot reach agreement by negotiation, they may jointly seek the good offices of, or request mediation by, a third party.

3. When ratifying, accepting, approving or acceding to this Convention, or at any time thereafter, a State or regional economic integration organization may declare in writing to the Depositary that for a dispute not resolved in accordance with paragraph 1 or paragraph 2 above, it accepts one or both of the following means of dispute settlement as compulsory:

(a) Arbitration in accordance with the procedure laid down in Part 1 of Annex II;

(b) Submission of the dispute to the International Court of Justice.

4. If the parties to the dispute have not, in accordance with paragraph 3 above, accepted the same or any procedure, the dispute shall be submitted to conciliation in accordance with Part 2 of Annex II unless the parties otherwise agree.
5. The provisions of this Article shall apply with respect to any protocol except as otherwise provided in the protocol concerned.

*Article 28. Adoption of Protocols*

1. The Contracting Parties shall cooperate in the formulation and adoption of protocols to this Convention.
2. Protocols shall be adopted at a meeting of the Conference of the Parties.
3. The text of any proposed protocol shall be communicated to the Contracting Parties by the Secretariat at least six months before such a meeting.

*Article 29. Amendment of the Convention or Protocols*

1. Amendments to this Convention may be proposed by any Contracting Party. Amendments to any protocol may be proposed by any Party to that protocol.
2. Amendments to this Convention shall be adopted at a meeting of the Conference of the Parties. Amendments to any protocol shall be adopted at a meeting of the Parties to the Protocol in question. The text of any proposed amendment to this Convention or to any protocol, except as may otherwise be provided in such protocol, shall be communicated to the Parties to the instrument in question by the secretariat at least six months before the meeting at which it is proposed for adoption. The secretariat shall also communicate proposed amendments to the signatories to this Convention for information.
3. The Parties shall make every effort to reach agreement on any proposed amendment to this Convention or to any protocol by consensus. If all efforts at consensus have been exhausted, and no agreement reached, the amendment shall as a last resort be adopted by a two-third majority vote of the Parties to the instrument in question present and voting at the meeting, and shall be submitted by the Depositary to all Parties for ratification, acceptance or approval.
4. Ratification, acceptance or approval of amendments shall be notified to the Depositary in writing. Amendments adopted in accordance with paragraph 3 above shall enter into force among Parties having accepted them on the ninetieth day after the deposit of instruments of ratification, acceptance or approval by at least two thirds of the Contracting Parties to this Convention or of the Parties to the protocol concerned, except as may otherwise be provided in such protocol. Thereafter the amendments shall enter into force for any other Party on the ninetieth day after that Party deposits its instrument of ratification, acceptance or approval of the amendments.
5. For the purposes of this Article, "Parties present and voting" means Parties present and casting an affirmative or negative vote.

*Article 30. Adoption and Amendment of Annexes*

1. The annexes to this Convention or to any protocol shall form an integral part of the Convention or of such protocol, as the case may be, and, unless expressly provided otherwise, a reference to this Convention or its protocols constitutes at the same time a reference to any annexes thereto. Such annexes shall be restricted to procedural, scientific, technical and administrative matters.
2. Except as may be otherwise provided in any protocol with respect to its annexes, the following procedure shall apply to the proposal, adoption and entry into force of additional annexes to this Convention or of annexes to any protocol:
  - (a) Annexes to this Convention or to any protocol shall be proposed and adopted according to the procedure laid down in Article 29;
  - (b) Any Party that is unable to approve an additional annex to this Convention or an annex to any protocol to which it is Party shall so notify the Depositary, in writing, within one year from the date of the communication of the adoption by the Depositary. The Depositary shall without delay notify all Parties of any such notification received. A

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Party may at any time withdraw a previous declaration of objection and the annexes shall thereupon enter into force for that Party subject to subparagraph (c) below;

(c) On the expiry of one year from the date of the communication of the adoption by the Depositary, the annex shall enter into force for all Parties to this Convention or to any protocol concerned which have not submitted a notification in accordance with the provisions of subparagraph (b) above.

3. The proposal, adoption and entry into force of amendments to annexes to this Convention or to any protocol shall be subject to the same procedure as for the proposal, adoption and entry into force of annexes to the Convention or annexes to any protocol.

4. If an additional annex or an amendment to an annex is related to an amendment to this Convention or to any protocol, the additional annex or amendment shall not enter into force until such time as the amendment to the Convention or to the protocol concerned enters into force.

#### *Article 31. Right to Vote*

1. Except as provided for in paragraph 2 below, each Contracting Party to this Convention or to any protocol shall have one vote.

2. Regional economic integration organizations, in matters within their competence, shall exercise their right to vote with a number of votes equal to the number of their member States which are Contracting Parties to this Convention or the relevant protocol. Such organizations shall not exercise their right to vote if their member States exercise theirs, and vice versa.

#### *Article 32. Relationship between this Convention and Its Protocols*

1. A State or a regional economic integration organization may not become a Party to a protocol unless it is, or becomes at the same time, a Contracting Party to this Convention.

2. Decisions under any protocol shall be taken only by the Parties to the protocol concerned. Any Contracting Party that has not ratified, accepted or approved a protocol may participate as an observer in any meeting of the parties to that protocol.

#### *Article 33. Signature*

This Convention shall be open for signature at Rio de Janeiro by all States and any regional economic integration organization from 5 June 1992 until 14 June 1992, and at the United Nations Headquarters in New York from 15 June 1992 to 4 June 1993.

#### *Article 34. Ratification, Acceptance or Approval*

1. This Convention and any protocol shall be subject to ratification, acceptance or approval by States and by regional economic integration organizations. Instruments of ratification, acceptance or approval shall be deposited with the Depositary.

2. Any organization referred to in paragraph 1 above which becomes a Contracting Party to this Convention or any protocol without any of its member States being a Contracting Party shall be bound by all the obligations under the Convention or the protocol, as the case may be. In the case of such organizations, one or more of whose member States is a Contracting Party to this Convention or relevant protocol, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under the Convention or protocol, as the case may be. In such cases, the organization and the member States shall not be entitled to exercise rights under the Convention or relevant protocol concurrently.

3. In their instruments of ratification, acceptance or approval, the organizations referred to in paragraph 1 above shall declare the extent of their competence with respect to the matters governed by the Convention or the relevant protocol. These organizations shall also inform the Depositary of any relevant modification in the extent of their competence.

*Article 35. Accession*

1. This Convention and any protocol shall be open for accession by States and by regional economic integration organizations from the date on which the Convention or the protocol concerned is closed for signature. The instruments of accession shall be deposited with the Depositary.
2. In their instruments of accession, the organizations referred to in paragraph 1 above shall declare the extent of their competence with respect to the matters governed by the Convention or the relevant protocol. These organizations shall also inform the Depositary of any relevant modification in the extent of their competence.
3. The provisions of Article 34, paragraph 2, shall apply to regional economic integration organizations which accede to this Convention or any protocol.

*Article 36. Entry Into Force*

1. This Convention shall enter into force on the ninetieth day after the date of deposit of the thirtieth instrument of ratification, acceptance, approval or accession.
2. Any protocol shall enter into force on the ninetieth day after the date of deposit of the number of instruments of ratification, acceptance, approval or accession, specified in that protocol, has been deposited.
3. For each Contracting Party which ratifies, accepts or approves this Convention or accedes thereto after the deposit of the thirtieth instrument of ratification, acceptance, approval or accession, it shall enter into force on the ninetieth day after the date of deposit by such Contracting Party of its instrument of ratification, acceptance, approval or accession.
4. Any protocol, except as otherwise provided in such protocol, shall enter into force for a Contracting Party that ratifies, accepts or approves that protocol or accedes thereto after its entry into force pursuant to paragraph 2 above, on the ninetieth day after the date on which that Contracting Party deposits its instrument of ratification, acceptance, approval or accession, or on the date on which this Convention enters into force for that Contracting Party, whichever shall be the later.
5. For the purposes of paragraphs 1 and 2 above, any instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by member States of such organization.

*Article 37. Reservations*

No reservations may be made to this Convention.

*Article 38. Withdrawals*

1. At any time after two years from the date on which this Convention has entered into force for a Contracting Party, that Contracting Party may withdraw from the Convention by giving written notification to the Depositary.
2. Any such withdrawal shall take place upon expiry of one year after the date of its receipt by the Depositary, or on such later date as may be specified in the notification of the withdrawal.
3. Any Contracting Party which withdraws from this Convention shall be considered as also having withdrawn from any protocol to which it is party.

*Article 39. Financial Interim Arrangements*

Provided that it has been fully restructured in accordance with the requirements of Article 21, the Global Environment Facility of the United Nations Development Programme, the United Nations Environment Programme and the International Bank for Reconstruction and Development shall be the institutional structure referred to in Article 21 on an interim basis, for the period between the entry into force of this Convention and the first meeting of the Conference of the Parties or until the Conference of the Parties decides which institutional structure will be designated in accordance with Article 21.

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#### *Article 40. Secretariat Interim Arrangements*

The secretariat to be provided by the Executive Director of the United Nations Environment Programme shall be the secretariat referred to in Article 24, paragraph 2, on an interim basis for the period between the entry into force of this Convention and the first meeting of the Conference of the Parties.

#### *Article 41. Depositary*

The Secretary-General of the United Nations shall assume the functions of Depositary of this Convention and any protocols.

#### *Article 42. Authentic Texts*

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF the undersigned, being duly authorized to that effect, have signed this Convention.

Done at Rio de Janeiro on this fifth day of June, one thousand nine hundred and ninety-two.

#### *Annex I*

##### **IDENTIFICATION AND MONITORING**

1. Ecosystems and habitats: containing high diversity, large numbers of endemic or threatened species, or wilderness; required by migratory species; of social, economic, cultural or scientific importance; or, which are representative, unique or associated with key evolutionary or other biological processes;
2. Species and communities which are: threatened; wild relatives of domesticated or cultivated species; of medicinal, agricultural or other economic value; or social, scientific or cultural importance; or importance for research into the conservation and sustainable use of biological diversity, such as indicator species; and
3. Described genomes and genes of social, scientific or economic importance.

#### *Annex II*

##### **Part I**

##### **ARBITRATION**

#### *Article 1*

The claimant party shall notify the secretariat that the parties are referring a dispute to arbitration pursuant to Article 27. The notification shall state the subject-matter of arbitration and include, in particular, the articles of the Convention or the protocol, the interpretation or application of which are at issue. If the parties do not agree on the subject matter of the dispute before the President of the tribunal is designated, the arbitral tribunal shall determine the subject matter. The secretariat shall forward the information thus received to all Contracting Parties to this Convention or to the protocol concerned.

#### *Article 2*

1. In disputes between two parties, the arbitral tribunal shall consist of three members. Each of the parties to the dispute shall appoint an arbitrator and the two arbitrators so appointed shall designate by common agreement the third arbitrator who shall be the President of the tribunal. The latter shall not be a national of one of the parties to the dispute, nor have his or her usual place of residence in the territory of one of these parties, nor be employed by any of them, nor have dealt with the case in any other capacity.

2. In disputes between more than two parties, parties in the same interest shall appoint one arbitrator jointly by agreement.
3. Any vacancy shall be filled in the manner prescribed for the initial appointment.

*Article 3*

1. If the President of the arbitral tribunal has not been designated within two months of the appointment of the second arbitrator, the Secretary-General of the United Nations shall, at the request of a party, designate the President within a further two-month period.
2. If one of the parties to the dispute does not appoint an arbitrator within two months of receipt of the request, the other party may inform the Secretary-General who shall make the designation within a further two-month period.

*Article 4*

The arbitral tribunal shall render its decisions in accordance with the provisions of this Convention, any protocols concerned, and international law.

*Article 5*

Unless the parties to the dispute otherwise agree, the arbitral tribunal shall determine its own rules of procedure.

*Article 6*

The arbitral tribunal may, at the request of one of the parties, recommend essential interim measures of protection.

*Article 7*

The parties to the dispute shall facilitate the work of the arbitral tribunal and, in particular, using all means at their disposal, shall:

- (a) Provide it with all relevant documents, information and facilities; and
- (b) Enable it, when necessary, to call witnesses or experts and receive their evidence.

*Article 8*

The parties and the arbitrators are under an obligation to protect the confidentiality of any information they receive in confidence during the proceedings of the arbitral tribunal.

*Article 9*

Unless the arbitral tribunal determines otherwise because of the particular circumstances of the case, the costs of the tribunal shall be borne by the parties to the dispute in equal shares. The tribunal shall keep a record of all its costs, and shall furnish a final statement thereof to the parties.

*Article 10*

Any Contracting Party that has an interest of a legal nature in the subject-matter of the dispute which may be affected by the decision in the case, may intervene in the proceedings with the consent of the tribunal.

*Article 11*

The tribunal may hear and determine counterclaims arising directly out of the subject-matter of the dispute.

*Article 12*

Decisions both on procedure and substance of the arbitral tribunal shall be taken by a majority vote of its members.

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#### *Article 13*

If one of the parties to the dispute does not appear before the arbitral tribunal or fails to defend its case, the other party may request the tribunal to continue the proceedings and to make its award. Absence of a party or a failure of a party to defend its case shall not constitute a bar to the proceedings. Before rendering its final decision, the arbitral tribunal must satisfy itself that the claim is well founded in fact and law.

#### *Article 14*

The tribunal shall render its final decision within five months of the date on which it is fully constituted unless it finds it necessary to extend the time-limit for a period which should not exceed five more months.

#### *Article 15*

The final decision of the arbitral tribunal shall be confined to the subject-matter of the dispute and shall state the reasons on which it is based. It shall contain the names of the members who have participated and the date of the final decision. Any member of the tribunal may attach a separate or dissenting opinion to the final decision.

#### *Article 16*

The award shall be binding on the parties to the dispute. It shall be without appeal unless the parties to the dispute have agreed in advance to an appellate procedure.

#### *Article 17*

Any controversy which may arise between the parties to the dispute as regards the interpretation or manner of implementation of the final decision may be submitted by either party for decision to the arbitral tribunal which rendered it.

### Part 2

## **CONCILIATION**

#### *Article 1*

A conciliation commission shall be created upon the request of one of the parties to the dispute. The commission shall, unless the parties otherwise agree, be composed of five members, two appointed by each Party concerned and a President chosen jointly by those members.

#### *Article 2*

In disputes between more than two parties, parties in the same interest shall appoint their members of the commission jointly by agreement. Where two or more parties have separate interests or there is a disagreement as to whether they are of the same interest, they shall appoint their members separately.

#### *Article 3*

If any appointments by the parties are not made within two months of the date of the request to create a conciliation commission, the Secretary-General of the United Nations shall, if asked to do so by the party that made the request, make those appointments within a further two-month period.

#### *Article 4*

If a President of the conciliation commission has not been chosen within two months of the last of the members of the commission being appointed, the Secretary-General of the United Nations shall, if asked to do so by a party, designate a President within a further two-month period.

*Article 5*

The conciliation commission shall take its decisions by majority vote of its members. It shall, unless the parties to the dispute otherwise agree, determine its own procedure. It shall render a proposal for resolution of the dispute, which the parties shall consider in good faith.

*Article 6*

A disagreement as to whether the conciliation commission has competence shall be decided by the commission.

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