

## REVIEW OF IMPLEMENTATION OF THE CONVENTION AT THE NATIONAL LEVEL

### INTRODUCTION

Conservation and management of biodiversity take effect in the field, and result from actions taken within national policy and legislative frameworks. Advice given to the Conference of the Parties, and the decisions it adopts, will largely focus on recommendations for action to be taken by the Parties, as the principal avenue for advancing implementation of the Convention. However, such guidance has to be translated into action at national level in order for it to be effective. This is ultimately where the best intentions of Parties to the Convention will succeed or fail. This chapter will review and assess national implementation.

Implementation of the Convention is overwhelmingly the responsibility of Parties and most action for implementation needs to be taken at the national level. What needs to be done is laid out in a general way in the operative articles of the text of the Convention, and these are clarified and expanded upon in the cumulative decisions of successive meetings of the Conference of the Parties. Each Party has autonomy to decide how to go about implementing the general provisions of the Convention and the specific guidance provided by the Conference of the Parties. Given the nature of the Convention and the specific conditions in each country with regard to the characteristics and status of its biodiversity, available financial and institutional resources, and national development priorities, it would be difficult for it to be otherwise.

However, the task of assessing the state of overall implementation of the Convention is therefore dependent upon the submission of information by all Parties on the measures each has taken to implement the provisions of the Convention and the effectiveness of these measures. Article 26 of the Convention contains the obligation for each Party to provide this information. Without comprehensive compliance with this requirement, the Conference of the Parties will operate in the dark. It will not have the necessary information to assess implementation, identify progress made and obstacles encountered, and identify priorities for future action. It will not be able to provide timely and targeted guidance to Parties, the Secretariat, the financial mechanism or any of the other bodies with a role to play in implementation.

### Philippines

*“Only 5% of the country's coral reefs remain in a pristine condition. 30-50% of seagrass beds have been lost in the last 50 years. 80% of mangrove coverage has been lost in the last 75 years.”*

### Information on implementation

The main sources for such a review are the *national reports* submitted to the Conference of Parties and the *case studies* that Parties and other groups have submitted following the various calls for action and information made by the Secretariat in response to decisions of the Conference of Parties. The chapter therefore draws on the first national reports, submitted in 1998, and national reports on alien invasive species, submitted in late 2000, together with case studies submitted on Article 8(j) and related provisions, benefit-sharing, incentive measures for conservation and sustainable use (Article 11), environmental impact assessment (Article 14). It will consider in more detail the specific case of agricultural biological diversity.

## Saint Lucia

*“43% of the 32,625 km of beach is currently being mined for sand. St Lucia has already lost 40% of its wetlands.”*

Almost eight years after the entry into force of the Convention it is still not possible to construct more than a partial picture of overall implementation. Many Parties have not provided information, either through national reports, case studies or other types of submissions. This chapter draws on the information submitted, without pretending to offer an overall assessment.

There are a number of reasons why this is the case: some Parties felt that the guidelines for the first reports were not clear; the focus on implementation of Article 6 meant that information on other key areas of implementation was not submitted; many Parties felt unable to report on their implementation of Article 6 before completion of their national biodiversity strategy and action plan. The preparation of reports absorbs often scarce resources and time. The accumulation of reporting requirements under different biodiversity-related and environmental conventions can impose serious burdens on the national agencies responsible, when these lack resources. Finally, despite the fundamental importance of reporting on implementation, many countries harbour misgivings about reporting on difficulties encountered or lack of effective action, and wish to avoid what are perceived as unfavourable comparisons between themselves and other Parties.

### First national reports

A total of 114 first national reports have been submitted, most of these by mid-1998. Although this means that almost two thirds of the Parties submitted a report of some kind, it would be unwise to assume that the information they contain can be taken as representative of implementation overall. The reports vary widely in size, format and content. Some are intended as final reports, while others are interim reports or drafts, and this argues for care when making comparisons.

The Conference of the Parties decided that the first national reports should focus on the implementation of Article 6 of the Convention “General Measures for Conservation and Sustainable Use.” It was anticipated, therefore, that Parties would provide details of the development of national biodiversity strategies and action plans and on the integration of the conservation and sustainable use of biological diversity into the plans, programmes and policies of other relevant economic sectors.

That a large number of Parties did not complete national reports, even within the extended deadlines, whilst others provided only interim or partial information, in itself amounts to a delay in implementation of the Convention. Many countries were unable to report, or may have not wished to report until the process of developing national strategies and action plans was complete. This appears to have been the case particularly with countries applying for support from the financial mechanism for assistance with the development of their national biodiversity strategies and action plans (see next section).

The variability of information and treatment in the first national reports and the difficulties of drawing comparisons between the experiences of implementation, the patchy response to calls for the submission of case studies and the absence of standard outlines for their preparation, and the difficulties of obtaining accurate and timely information about the status of national biodiversity strategies and action plans have meant that it has so far been difficult to develop a global picture of the experiences of Parties in carrying out measures for the implementation of the Convention, and the effectiveness of the measures taken.

The new format for national reports, which calls for submission of information on action taken in pursuit of all the obligations on Parties under the Convention and on the experiences of Parties in

undertaking such actions, including the reasons for the selection of relative priorities and constraints to implementation, will go a long way to overcoming the existing information deficit and the problems of comparability.

The near-universal membership of the Convention means that, if all Parties submit complete reports, there is the possibility of obtaining a reliable global overview of implementation. Preliminary analysis of the reports received shows that most Parties have used the format and that the information in the reports can be analysed in a way that enables a picture of the status of implementation to be developed. In particular, it will be possible to identify where Parties have identified constraints to implementation.

Although a reliable picture of this sort is not yet available, preliminary conclusions can be drawn from the information contained in the first national reports, from reports prepared by the GEF and its Implementing Agencies on implementation of biodiversity enabling activities, and from other information provided by Parties which indicate that the implementation of the Convention is proceeding in most countries. This is illustrated by:

- The ongoing preparation of national biodiversity strategies and action plans in most countries,
- Increasing efforts to reform institutional and legislative arrangements, with a view to integrating biodiversity issues into sectoral activities,
- Increased recognition of the importance of the identification and monitoring of biological diversity,
- Renewed emphasis on *in situ* conservation of biological diversity,

- Continuing requests for financial and technical assistance to complete the strategies and action plans and to focus on national and local implementation,
- Emerging interest among Parties in promoting regional cooperation for implementation of the Convention.

### **Reporting on the status of biological diversity and its conservation**

The form and content of the biodiversity information provided in the first reports varies widely, in part perhaps because Parties were not clear how much information was actually required and for what purpose. It appears that most Parties have a reasonable knowledge of the status and distribution of the larger species and main ecosystems within their territories, and some have very detailed information; although nearly all note the need for more information. In general, rather less information is available on genetic resources than on species and ecosystems, except in the case of major crop species.

Reporting on threats to biodiversity also varies greatly. This might imply that significant differences exist in the way threats are addressed at the national level; it might also reflect a tendency to avoid reporting on negative issues. Where threats are referred to, specific threats are usually identified (such as pollution or habitat fragmentation), and the steps being taken to deal with them are briefly discussed. However, it is clear that a systematic approach to the identification of threats to biodiversity is lacking in many countries. Some countries have carried out systematic reviews to identify the potential impacts on biodiversity of other sectors, such as agriculture or transport. This is a potentially valuable approach as it moves from looking at the pressures themselves toward an initial assessment of the driving forces behind them. A number of Parties have assessed the socio-economic conditions and trends associated with adverse impacts on biodiversity.

## **Slovakia**

*“Almost one tenth of its wetlands have been drained.”*

All countries have some form of environmental legislation in force, although the form and function of that legislation can vary widely, as can the extent to which it is implemented. Of particular interest are the arrangements (both legal and institutional) in those countries with a federal system of government, in part because of the extra steps required to ensure coordination between the different levels of government. Another issue of particular interest in certain parts of the world, particularly in the Pacific, is the relative importance of customary law and traditional management structures, and the efforts to build effective conservation programmes into such practices.

A number of Parties have provided the Secretariat with information on their efforts to conserve plant and animal genetic resources for food and agriculture. This includes information on regulatory frameworks in place, on *in situ* conservation of landraces and indigenous cultivars, on measures taken for *ex situ* conservation of genetic resources within the country, and details of national institutions with important germplasm collections. Difficulties in obtaining adequate funding for the maintenance and further development of national *ex situ* facilities have been noted, and there is also a lack of coordination in certain areas.

There appears to be a lack of coordination in the application of national legislation in a number of countries, and in some, difficulties in its implementation. Closer integration of national policies and legislation with international agreements is commonly needed. On the other hand, many countries work with international organizations and participate in international programmes that directly or indirectly provide means for the implementation of the Convention. Examples include UNESCO's Man and Biosphere (MAB) programme, and the activities of member institutions of the Consultative Group on International Agricultural Research (CGIAR). Further development of such collaborations has the potential to support and improve national implementation of the Convention.

Because many Parties are in the early stages of preparation of their biodiversity plans and strategies, much discussion in the first national reports concerns existing environmental measures. Some reports stress research and monitoring, while others place more emphasis on conservation action, but almost everywhere initiatives exist that can be developed as a means of implementing the Convention. In general, these activities place more emphasis on the species and ecosystem levels of biological diversity than on the genetic level, both in conservation activities and in research and monitoring programmes.

The form of institutional responsibility clearly varies quite considerably, as does the extent to which institutions at the national level interact and coordinate with each other. Indeed, a number of the national reports explicitly note the lack of coordination in activities concerned with biodiversity conservation, and identify this as an impediment to the efficient implementation of the Convention.

One report by a developed country Party stresses the steps taken to assess the impact of all its activities, past and present, on the world's biodiversity. This type of assessment of a nation's "ecological footprint" serves not only to demonstrate the extent of a country's impact on the world, but also the dependence of that country's citizens on biodiversity and the products and services that biodiversity provides. Further studies of this sort would be valuable.

#### **STATUS OF NATIONAL BIODIVERSITY STRATEGY AND ACTION PLANNING**

Development and adoption of a national biodiversity strategy is the foundation for implementation of the Convention by Parties. A national strategy will reflect how the country intends to fulfil the objectives of the Convention in light of its specific national circumstances, and the related action plans will constitute the sequence of steps to be taken to meet these goals.

## Spain

*“Of the 7,300 km of rivers in Spain 11% are substantially contaminated and another 15% show medium contamination. In the last 50 years 60% of Iberian wetlands have been desiccated. Close to 40% of the coasts littoral zone has been urbanised and occupied.”*

The Convention requires that biodiversity considerations be mainstreamed into all aspects of national planning and that each Party shall integrate consideration of the conservation and sustainable use of biological resources into national decision-making. The requirement to mainstream the conservation and sustainable use of biological resources across all sectors of the national economy and of the policy-making framework is the complex challenge at the heart of the Convention.

Some countries have prior or underlying national frameworks for biodiversity based on elements of biodiversity management such as nature conservation strategies, wildlife policies, national park and protected areas plans and legislation, and have used or adapted these to meet the obligations of Article 6. However, the broad scope of the Convention has meant that many countries, developed and developing, are having to deal with a range of unfamiliar issues and concepts. This is the case both for Parties that are adapting existing frameworks to meet the obligations of the Convention and those that are developing national biodiversity strategies and action plans (NBSAPs) for the first time. New issues include access to genetic resources and benefit-sharing, bioprospecting, biosafety, and protection and application of traditional knowledge. For many Parties such issues are among their highest priorities.

Parties need assistance to develop national biodiversity strategies and action plans, to identify priority actions, to develop the necessary human and institutional capacity, and to obtain appropriate financial support. The Convention recognises that cooperation – between Parties and sources of external support, and between Parties themselves – is essential.

By January 2001, 125 eligible developing countries and countries with economies in transition had had biodiversity enabling activities approved. A number of developing country Parties are preparing their strategies with other resources. Overall, on the basis of the available information, it appears that around one third of the 153 developing countries Parties or Parties with economies in transition have completed the preparation of their national biodiversity strategies and action plans. Of the 26 developed country Parties, it appears that most have developed a national biodiversity strategy or have adapted existing strategies to reflect the measures set out in the Convention.

The absence of a requirement for Parties to inform the Secretariat when national biodiversity strategies have been completed and approved, or to provide a copy of the completed strategy document, has meant that it is not possible to maintain an up-to-date picture of the overall status of strategies. As a way of remedying this, the format for the second national reports includes a requirement that the Party inform the Secretariat of the status of development of its national biodiversity strategy and action plan and, if this has been completed, to provide a copy to the Secretariat. In this way it is hoped that a complete picture can be obtained and that completed strategy documents can be made available through the clearing-house mechanism for consultation by countries that have not yet completed the strategy development process.

Despite the fact that, for many countries, development of a national biodiversity strategy and action plan has been or will be a new experience, requiring new methods and arrangements, it is likely that implementing the strategy will make even greater demands. A key factor that may well determine the extent to which implementation succeeds, rather than the strategy remaining yet another document on the shelf, will have been the real degree to which the development

of the strategy has been a country-driven process and not, in the case of developing country Parties, simply a response to the availability of financial support from the GEF.

When Parties reported in 1998, most of the developing countries that had begun work on development of a NBSAP were at a fairly early stage in the process, and as a result many of the reports were of an interim or summary nature. Many developing country Parties and Parties with economies in transition did not fully start developing their NBSAPs until late 1997 or early 1998, and some later still.

The NBSAPs of developed country Parties draw heavily on existing plans and strategies. In those developed countries that had not completed their NBSAP in 1998 relevant activities were generally under way. A key task has been to integrate existing efforts (which include policies, law, programmes and guidelines) into the NBSAP process in a meaningful and effective way, avoiding duplication.

Consultation with or participation by stakeholders is taking place in many countries, although the level of actual involvement varies widely. Many Parties are drawing upon advice and experience from elsewhere.

A number of reports refer to cross-border protected areas, where international collaboration can lead to an increase in protection for certain species and habitats, increased opportunities for managers to cooperate and to share experiences, and an increased profile for conservation action. Such cross-border initiatives provide an important means of improving implementation of the Convention, although it is not clear to what extent they are a response to the Convention.

One Party provided information in its national report on the conclusions of a national audit on the management of the natural environment, which identified the need for reform in the distribution

of financial resources and in administrative activities. This kind of analysis can be very useful, both as a check on the cost-effectiveness of action being taken, and as a stimulus for cross-sectoral integration.

A number of intergovernmental workshops in 1997 and 1998 reviewed regional implementation of the Convention, providing an opportunity for national focal points and others to share experiences. A general conclusion was that biodiversity planning, in the context of the comprehensive scope of the Convention, was a new concept for which there were no prior models or examples of best practice, and for which few methodological tools were available. All countries, notwithstanding differences arising from the specific conditions of each, were engaged in similar learning processes.

Specific problems identified at the start of the biodiversity planning process included:

- Inadequate political support for crucial aspects of the planning process and for approval of action;
- Weak legislative base;
- Inadequate information;
- Lack of appropriate scientific and technical expertise and experience in biodiversity planning;
- Lack of institutional coordination within Governments, and between Governments and stakeholders;
- Difficulties in access to and availability of funding;
- Direct economic pressure on ecosystems and a lack of national budget allocations;
- Need for increased public education and awareness;
- Need for recognition of the long-term nature of the NBSAP process;

## Ireland

*“In a recent survey of Irish lakes 60% were categorized as unpolluted, 32% as strongly eutrophic and the remainder as highly eutrophic and hypertrophic. The majority of rivers are salmonid quality, but the length of pristine, unpolluted rivers has steadily declined, from 84% in 1971 to 57% currently.”*

- Complexity of translating a biodiversity strategy into a costed and prioritized action plan;
- Scarcity of examples of the effective integration of biodiversity considerations into sectoral or cross-sectoral planning.

### **Action to integrate conservation and sustainable use into other sectors**

Most countries recognize the importance of integrating biodiversity into other sectors, in particular agriculture and forestry. Mechanisms, such as land-use planning systems, are widely being put in place to achieve this. It is often difficult to determine to what extent this is a result of the Convention itself. In some regions, for example, Parties have clearly made significant efforts to include all stakeholders in the development of NBSAPs, and it appears that a wide range of sectors and interests are involved in the implementation of action plans. In most cases, a steering or coordination group has been set up, usually under the auspices of the Ministry of Environment or its equivalent. These groups mainly comprise representatives of the relevant ministries, research institutes and non-government organizations. Some countries mention the involvement of different levels of government, and others stress the involvement of trade, industry and the private sector. At regional level in Western Europe, European Community policy and legislation provides a further potential opportunity to develop intersectoral integration, building on strong national planning processes. Wide dialogue can lead to increased understanding of the Convention among a range of stakeholders, and this can in turn lead to improved integration.

The situation in countries with economies in transition varies widely. In some countries government-appointed commissions are responsible for ensuring integration, including through policy reviews in different

sectors to address the links with environmental policy. In other countries activities in different sectors appear insufficiently coordinated. These differences are possibly due to different economic conditions. The development of cross-sectoral responsibility clearly emerges as a key issue, to be addressed through collaborative development of NBSAPs.

A study of key trends in integrating biodiversity into other sectors taken from the reports of Parties in the Pan-European region (Western Europe and countries with economies in transition) indicates that:

- no single economic sector stood out alone as impacting on biodiversity across the whole of Europe;
- the key sectors of concern indicated by European countries are agriculture, forestry, fishery, transport, tourism, and water management. Protected areas were highlighted as one of the main approaches to address integration;
- national reports generally made reference to a limited number of sectors concerning integration. Few national reports indicated a wide spectrum of sectors;
- important sectors for biodiversity, such as mining, coal, oil, chemicals are mentioned only in a few reports;
- regional trends appear to exist, with the European Community being most concerned with agriculture although taking an intersectoral rather than single sector approach, whilst in the CEE region there is relatively more concern than in Western Europe for forestry.<sup>1</sup>

<sup>1</sup> Drucker, Graham and Damarad, Tatsiana. (2000). *Integrating Biodiversity in Europe: A Review of Convention on Biological Diversity General Measures and Sectoral Policies*. Tilburg (Netherlands). European Centre for Nature Conservation. page 20

In the Latin America and the Caribbean region a process of wide consultation for developing NBSAPs appears to be taking place, with the intention of leading to inclusive and integrated future programmes. Several Parties identify a body responsible for ensuring (or advising on) cross-sectoral integration, nevertheless more can be done in this area.

Several Parties in the Asia region clearly recognize the importance of the NBSAP process in promoting dialogue between diverse stakeholders, and in facilitating the development of a better awareness and understanding of cross-sectoral responsibility. This is an important process, as in many countries there are overlaps of mandate and areas in which there is no clear coordination, while in others there are deficiencies in integration resulting from restrictions inherent in the legislative framework.

Mechanisms for achieving integration vary. Some Parties have established national biodiversity commissions or committees derived from key areas of government, NGOs and the private sector, in order to coordinate or advise on the development and implementation of biodiversity policy. Other Parties have less broad-based mechanisms, with one ministry or group of ministries taking the lead in the development and implementation of biodiversity policy, although other bodies may be able to contribute.<sup>2</sup>

<sup>2</sup> Types of bodies established in the Pan-European region include: interministerial or departmental committees, biodiversity steering groups, national commissions for biodiversity, experts committees, national biodiversity forums, sustainable development roundtables, interdisciplinary working groups, sustainable development commissions, national environment and sustainable development commissions. (Drucker and Tamarad (2000), table 5)

Many countries recognize the importance of public education and awareness for integrating the objectives of the Convention into other sectors. A general lack of understanding of the importance of biological diversity and the dangers arising from its loss are highlighted in several reports, and a number of Parties state that they are planning activities to address this. Some countries are aware of the opportunities offered by ecotourism for generating revenue for investment in conservation and sustainable use of biological diversity, and as a method for raising awareness and interest in biological diversity.

Several national reports give the impression that integration is led from one ministry and, in effect, imposed on other sectors in the name of national policy, with the risk that integration is more apparent than real in such cases. On the other hand, it does appear from many reports that there are real and creative efforts to ensure effective integration of biological diversity into other sectors, which is a very positive outcome.

#### **Action to identify and monitor biological diversity and impacts upon it**

Effective implementation of the Convention requires identification of the components of biodiversity and the activities that impact on conservation and sustainable use of biological diversity, and the effective management of this information.

In Latin America, much is known about important components of biodiversity, and the key threats to biodiversity have generally been identified, but there are also significant gaps in knowledge concerning particular regions and components of biological diversity. The status of information systems varies widely, from Parties with very few mechanisms for managing and ensuring access to information, to those that are in the process of developing more integrated

#### **Switzerland**

*“Since 1800, 90% of Swiss wetlands have disappeared. The area of flood plains has also been reduced by 90%, and of the remaining plains only 20% can be considered active.”*

information systems that will facilitate the flow of information necessary for effective implementation of the Convention. However, national reports suggest that greater integration and information-sharing is needed, and that most monitoring and information management currently relates to the status of biodiversity rather than threats to it.

Within the small island developing States, information on key components of biodiversity is available, and there is an understanding of some of the major threats, but the information base is known to be incomplete, and the availability of integrated information is a problem. There are also problems because of the relative remoteness of some island areas, which can mean that access to them for assessment and monitoring purposes is restricted.

In Asia, major elements of biodiversity at the species and ecosystem level are generally known, and the main threats to biodiversity are also well documented. However, particularly in the larger countries, this information is often patchy, leaving significant gaps. Action is already under way in a number of these countries to fill information gaps, to address the causes of biodiversity loss, and to continue to monitor the situation.

Within Africa, lack of baseline information is widely identified as an impediment to the effective implementation of the Convention and one that needs to be addressed urgently. Several countries note that national biodiversity units have been or are being set up in order to improve access to information.

In Western Europe, there is significant activity under way to assess and monitor the various elements of biological diversity, including a number of international programmes (e.g. bird-ringing and

recording). Such work is gradually being complemented and strengthened, and there are moves toward increased integration at national and international levels. However, mechanisms for assessment and monitoring of genetic diversity still lag behind, as they do elsewhere in the world, and should be given more attention.

Those countries with economies in transition often have an excellent information base, based on research and monitoring programmes. It is not clear to what extent these programmes have been augmented or adjusted as a result of ratification of the Convention. There are a number of initiatives under way to increase access to existing information, such as through the UNEP Environment and Natural Resources Information Network programme (assisting countries to develop their information management capacity and reporting ability).

All the developed country Parties have significant amounts of information for biodiversity assessment purposes. A number of countries are developing programmes, targets and indicators for use in monitoring, planning and reporting. These are predominantly at an early stage of development. Some of these programmes are based on further development of work developed for other initiatives, including the review of the implementation of environmental action plans and the statistical information prepared for the Organization for Economic Cooperation and Development (OECD) and the Commission on Sustainable Development (CSD).

There are great differences in the state of development of information systems supporting development and implementation of biodiversity conservation policy. Although most countries possess a significant information base, in some areas lack of baseline data is still identified as an impediment to the effective implementation of the Convention, particularly in Africa, and improved coordination of information

management is often required. National information networks are under development in a number of countries. There is commonly need to reduce duplication of effort and increase compatibility between such systems.

#### **Article 8(j) and related provisions**

Decision IV/9 of the Conference of the Parties invited Governments and others to provide the Executive Secretary with case studies and other relevant information to support the discussions of the Open-ended Intersessional Working Group on Article 8(j) and related provisions of the Convention.

#### **Article 8(j) and related provisions**

**Article 8(j) (*in situ* conservation):**

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

(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.”

**Article 10(c) (Sustainable use of components of biological diversity):**

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

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

**Article 17(2) (Exchange of information):**

“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(4) (Technical and scientific cooperation):**

“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.”

Interaction between traditional and other forms of knowledge relating to the conservation of and sustainable use of biological diversity is an important issue for the successful implementation of the Convention. The validity and potential impact is recognized in Article 8(j) of the Convention. Reference to traditional knowledge is found in an increasing number of decisions from the first to the fifth meetings of the Conference of the Parties, reflecting the growing recognition

## Uzbekistan

*“Since the 1970s the Aral Sea has shrunk to approximately half its size. Reed bed area has declined by 6 times due to the shrinking of the Aral Sea. However by letting water into other lake systems 99,000 ha have been gradually restored.”*

of its status as an essential component of implementation of the Convention. This incremental growth in reference to traditional knowledge reflects the growing understanding of Parties of its intrinsic importance and the need to address issues such as mechanisms for cooperation, consent, benefit-sharing and conservation. These are important components of the conservation and sustainable use of biological diversity and the effective participation of indigenous and local communities in the implementation of the Convention.

At the national level, recognition of and respect for indigenous rights and cultures may have the potential to promote the sharing of the benefits of traditional knowledge. In advance of any such sharing it is essential that mechanisms, such as national legislation and international instruments, be developed and implemented in cooperation with indigenous and local communities to protect the inherent rights and “ownership” of the holders of such knowledge. The lack of confidence within indigenous and local communities toward many such instruments has led to a general recognition that *sui generis* regimes may be worth exploring where current laws and agreements cannot be effectively used. At present intellectual property laws such as geographical indicators and trademarks, as well as certain aspects of common law, are being explored with respect to the collective traditions and values of indigenous and local communities. A number of countries have acknowledged their constitutional obligations to recognize and affirm existing aboriginal and treaty rights that may constrain compliance with international instruments in areas such as fishing and forestry.

Incorporation of the traditional knowledge of indigenous and local communities in development and resource management decision-making processes emerges as an issue of considerable importance. Access to information is a very sensitive issue, and ethical guidance

for the conduct of research in indigenous communities is needed. The relationship between representatives of indigenous communities and holders of traditional biodiversity-related knowledge may require further examination, specifically with respect to matters of prior informed consent and the collective nature of indigenous knowledge. More countries should provide case studies and related information on this so as to share experience on how to reach the respect and value of traditional biodiversity-related knowledge in order to meet the principles contained in Article 8(j) and related provisions.

### Protected areas

Virtually all reports from every region stress the importance of protected area systems in national programmes for implementing conservation, and the action to be taken as part of the national biodiversity strategy and action plan is identified. It is in general essential to ensure that:

- protected area systems cover the full range of biodiversity adequately,
- legislation, enforcement and management are effective (including sufficient human and financial resources),
- protected areas are integrated with the wider region, and
- all stakeholders are involved in the establishment and management of protected areas.

International protected area initiatives and transfrontier protected areas are effective means of encouraging and extending national action. For example, within the countries of the European Union and those countries seeking to apply for membership, particular emphasis is placed on development of the networks of protected areas established under European Community legislation. This international

network of nationally designated sites (Natura 2000) aims to protect core areas for all species and habitats of European significance. Elsewhere in Europe and beyond, the Bern Convention is encouraging the development of a parallel network of core areas called the *Emerald Network*.

In the wider Pan-European region, including the Russian Federation and the Central Asian republics, there is a programme for development of a *Pan-European Ecological Network* as part of the Pan-European Biological and Landscape Diversity Strategy. The aim of this programme is to build on the series of core areas with a series of buffer zones, corridors and other protected areas that between them ensure the efficient conservation of all biodiversity and landscape elements of Pan-European significance. Networks of this sort are already under development in many of the countries with economies in transition, as well as some of the countries of Western Europe and parts of North America.

Among Pacific small island States the GEF has been supporting development of an approach to the establishment and management of conservation areas that involves local stakeholders effectively and takes full account of the complex land tenure systems in these countries. With one or two GEF-supported conservation areas in each country, it is hoped that the lessons learnt will be repeated elsewhere, strengthening conservation in the Pacific islands, and making it more relevant to local people.

Consistent with the ecosystem approach, there is an increased emphasis on the relationship between protected areas and the surrounding lands in many other countries too, coupled with uptake of a bioregional approach to protected areas establishment, and an increase in the involvement of local peoples. The GEF is supporting a range of protected areas projects that are making significant moves in this direction.

Protected areas are a critical component of the measures that will ultimately determine how effectively countries are implementing the Convention. However, the issue of protected areas has not been fully addressed by the COP to date, except as one tool in a range of tools for implementing conservation and sustainable use in particular ecosystems. Various organizations, led by the IUCN World Commission on Protected Areas, are starting to draw together lessons learnt in protected areas establishment and management for the World Parks Congress in 2002; this will in turn provide major input to the SBSTTA and COP discussions on protected areas in 2004.

### Sustainable use

Sustainable management agreements between purchasing companies and local inhabitants can provide the basis for avoiding illegal take and overharvesting, and generate greater benefits for local communities from commercial use. The CAMPFIRE programme in Zimbabwe is an example of community-based natural resource management. It seeks to demonstrate that with appropriate incentives, wildlife is a viable land-use option in ecologically marginal areas.

For successful establishment and implementation of an agreement it is essential that the participation is broad-based and takes into account the traditional structure of the communities where relevant. All stakeholders need to be involved in the process to ensure acceptance and ownership. However, there is a need to differentiate between producing and non-producing communities and carefully allocate the revenues according to the contributions made to the project as well as the costs incurred. Such an effort will be successful in establishing a clear link between producer (defined by cost) and benefit.

### Viet Nam

*“Between 1990 and 1995 the area of mangroves was reduced from 73,500 hectares to 34,700 hectares, a loss of 60% of the 1990 area.”*

All available case studies demonstrate that sustainable use has positive impacts on the conservation of the species harvested as well as on support species. The greatest benefit from sustainable use approaches will not be in the form of tangible and measurable outputs such as equipment and money, but rather the catalysing role that this type of activity plays in coupling conservation needs with the needs of communities

### **Incentive measures**

Decision III/18 of the Conference of Parties calls for Parties to provide the Executive Secretary with case studies on incentive measures, and the experience demonstrated by these case studies was used to inform discussions at the third meeting of the COP.

Effective incentive measures for the sustainable management of biological diversity are recognised as an important priority. A series of recent meetings have specifically focused on the use of economics and incentive measures for biodiversity management, and case studies originating from some of these efforts have provided valuable input to discussion. Several conclusions can be drawn:

- Successful design and implementation of incentive measures require consideration of socio-cultural factors; while economic factors are highly significant, they are not the only determinants of biodiversity management outcomes;
- Opportunities to implement incentive measures are country-specific; each having a unique institutional environment defining opportunities for, and constraints on, policy measures;

- Involvement of the private sector is facilitated by a participatory approach; this sector becomes increasingly committed to conservation and sustainable use when its concerns are taken seriously and incorporated into policy.

Successful incentives for conservation and sustainable use arise from a combination of measures incorporating economic, social, cultural and legal factors. Improving biodiversity management involves successfully changing patterns of human behaviour, and in designing new incentive measures the implementing agency must take concerted action on the legal, social, and enforcement fronts simultaneously. Two approaches can be taken to creation of incentives. Formal constraints are written instruments that provide a legally enforceable framework for the economic and social activities of a society; these include laws, government policies (including economic measures) and property rights. Social constraints are unwritten rules that govern everyday human behaviour in economic and social exchange. Cultural norms, social conventions, traditions and taboos are all social constraints which stem from belief systems, and compliance with them is by convention.

### **Environmental impact assessment**

Decision IV/10 of the Conference of Parties called for Parties to provide the Executive Secretary with case studies relating to environmental impact assessment (EIA), and the experience demonstrated by these case studies was used to inform discussions at the fourth meeting of SBSTTA. Six countries responded to this call, Argentina, Australia, Canada, Dominican Republic, Namibia and Oman, as well as UNEP and the World Bank.

An environmental impact assessment process is in place in many countries, and is often a legal requirement. However such processes often fail to incorporate biological diversity considerations in full, and even if they are included these considerations may subsequently be regarded as low priority in comparison with economic and development considerations.

On the other hand, work on biological diversity and impact assessment is being undertaken by Parties and relevant organisations. Examples include the workshop on biological diversity and impact assessment in Central Africa, held in Cameroon in March 1999, and the European Directive on the assessment of the effects of certain public and private projects on the environment, substantially modified in 1997. Impact assessment was analysed at the seventh meeting of the COP of the Convention on Wetlands (San Jose, May 1999); at the sixth meeting of COP of the Convention on Migratory Species (Cape Town, November 1999); and at the twelfth meeting of the COP of the Convention on International Trade of Endangered Species (Nairobi, April 2000).

The case studies and other information submitted to the Executive Secretary in 1999 were not sufficient, either in number or in their degree of detail, to reach definitive conclusions about the present status of incorporation of biodiversity considerations into environmental impact assessments. The report was therefore considered as an initial step in covering the issue, with the expectation that further information and analysis would lead to the development of guidelines on the incorporation of biological diversity considerations into EIA.

On the basis of the case studies reviewed by the Executive Secretary, the following preliminary conclusions can be drawn:

- Impact assessments on biological diversity should address actual and potential effects of development activities and projects on ecosystems, species and genetic resources, as well as effects on functional performance and resilience of natural habitats and ecosystems.
- The value of *Strategic Environmental Assessments* is highlighted. These consider the overall environmental policy context instead of focusing on individual projects and/or resources and should address conservation and sustainable use of biological diversity and ecosystems.
- The lack of adequate scientific data on the status and trends of biological diversity, including information regarding threatened and endangered species and their habitats, constitutes a serious limitation in carrying out such assessments.
- Continuous monitoring is required through baseline/benchmark data and indicators, to provide early warning of potential threats, and to measure impacts on biological diversity, ecosystem processes and interactions. This should address both specific and cumulative environmental effects resulting from human activities.
- Some adverse impacts may be wide-ranging and have effects beyond the limits of particular ecosystems or national boundaries. Environmental management plans and strategies should therefore consider regional and transboundary impacts, and provide the basis for consistent and integrated approaches. These plans and strategies may be backed up by legislation and incentive measures, including measures to restore or rehabilitate ecosystems and to recreate habitats and biological resources.
- Proposed programmes and projects that may have a potential negative impact on biological diversity should be systematically

## Armenia

*“The area of natural pasture land has declined from 1.4 million hectares in 1940 to 808,000 hectares today.”*

screened from the earliest stage of the proposal and through all subsequent stages of the development process. Such assessments should provide early warning of incipient problems rather than assessing damage at a stage where it may already be irreversible.

- In all stages of the assessment process, the involvement of interested and affected stakeholders should be ensured, including governmental bodies, the private sector, research institutions, indigenous and local communities and non-governmental organisations, through the use of participatory approaches.
- There is an urgent need for capacity-building, including the development of local expertise in rapid assessment methodologies, techniques and procedures, to permit, at the very least, the identification of impacts of major importance on biological diversity.

A number of countries in Africa and Central Europe have also referred to the need to develop procedures for addressing agricultural biological diversity in environmental impact assessments.

### Access and benefit-sharing

The Conference of the Parties, through a series of decisions, has requested Parties to provide information to the Executive Secretary on a number of issues related to access and benefit-sharing, including developments of national, regional and sectoral administrative and policy measures and case studies on access and benefit-sharing arrangements. On the basis of this information, the Executive Secretary is to facilitate an exchange of information among Parties and to help inform subsequent discussions of the COP.

In order to implement the Convention efficiently, measures are required for regulating not only the provision of genetic resources, but also the commitments of the user. As the provider and user may be from different countries, they may well be subject to different legal, administrative and policy systems. This has important implications for agreements and their development.

As more and more access legislation is being enacted at the national level, there is a need for mechanisms to help harmonize efforts to implement the Convention framework at the national and regional levels, and to ensure fair and equitable sharing of benefits. Guidelines need to be developed and adopted based on the best practices developed by those countries that have set up legislation, including administrative regulations and other administrative and policy measures. Countries choose a variety of mechanisms to introduce access measures into their national law, including new stand-alone laws or additions to existing law relating to biodiversity or specific sectors such as fisheries, forestry or protected areas.

One message common to all case studies is the need to establish a clear institutional setting and a legal and policy framework which is favourable for multidisciplinary arrangements. In most cases where specific access legislation has been developed, countries have decided to establish a committee at the national level, including stakeholders from all levels of society. Biodiversity prospecting is a multidisciplinary and complex field, and the cooperation of a range of sectors in society is required in order to develop effective regulations.

Because the chances of a drug being developed from any one collection of genetic material is relatively low, benefit-sharing mechanisms with immediate incentives are important, rather than

## Belarus

*“In the past 30 years 150 thousand ha of bush and shrubland have been transformed into agricultural land.”*

ones based only on potential future royalties. Basic needs of the local inhabitants are crucial in creating incentives for protecting natural resources, and the extended period required for the development of products (particularly so when dealing with potential pharmaceutical products) means that long-term relationships are important. In some cases, measures are in place to set up joint research programmes involving institutions in the provider and user countries. In order to allow countries to negotiate effectively with international companies, a register of experts upon which communities can draw has been proposed. In general, scientists, development workers, and local community representatives will lack commercial and legal experience to negotiate agreements without competent legal counsel. Communication in the host country language is needed to satisfy the requirement for informed consent.

### Financial and human resources

Many Parties clearly recognize that they are in the early stages of a process that will bring changes and add new tasks to the programmes of their agencies. Training in new skills is identified as a future need in many countries, particularly in areas such as biotechnology and biosafety. In other more traditional areas, such as taxonomy, there are always shortages of skills in particular areas.

The national reports from many Parties in Latin America, Asia, and Africa identify a common need for additional financial and human resources in order to help implement the Convention, lack of these being a major constraint to implementation, particularly in Africa. Most countries in these three regions already receive support from the GEF for the development of strategies and action plans, and other international support is also being provided through bilateral and multinational development assistance. Only two Parties refer in their reports to funding biodiversity through debt-for-nature swaps.

Within Western Europe, the human and financial resources available for implementation of NBSAPs are generally good. Further financial resources are identified as being required in several countries, but innovative approaches to raising revenue and sponsorship are being explored, particularly with the private sector. In some parts of Europe, significant funds are available through the EC, where structural funds and the Cohesion Fund can be used to finance activities that support biodiversity conservation.

The availability of resources varies widely in those countries with economies in transition, and most of the countries are seeking outside assistance, both financial and technical, in at least some areas of activity. Such support varies from specific projects, such as managing protected area systems or developing biodiversity information management, to a much more wide-ranging requirement for capacity building. In most cases the GEF is supporting the development of NBSAPs.

A review of GEF biodiversity enabling activities was completed in late 1999<sup>3</sup>, based on interviews and review of key documents as well as visits to twelve countries: Argentina, Belize, Cameroon, Cuba, Egypt, Eritrea, Gabon, Kenya, Mexico, Poland, Ukraine, and Zimbabwe. Additional case studies were commissioned in India, Nepal and the Philippines. Broader reviews were commissioned for enabling activities in two regions, the Arab States, and the South Pacific Islands.

<sup>3</sup> GEF (1999)

An overall finding of the review was that most countries appear to have undertaken a worthwhile and cost-effective national biodiversity planning process, or are in the process of doing so. Most of the NBSAPs reviewed during the assessment were well-informed and impressive documents, containing what appeared to be reasonable assessments of current biodiversity strategies and trends. Given that the stated objectives of enabling activities are extremely ambitious and set a very high standard for any country to achieve, it may be more realistic to think of these as helping set the stage for national biodiversity planning.

However, most national reports did not provide quantitative information regarding financial support to biodiversity, and the lack of a standard mechanism for compiling information on international support for biodiversity conservation and sustainable use makes assessment of its extent difficult.

### **Mechanisms for sharing national experience**

The compilation and analysis of case studies is central to several areas of work of the Convention. Although it was requested that national reports should include case studies, and several calls for case studies have been made in COP decisions, it is evident that this information has not been provided in a consistently structured manner, and many Parties have not reported on the issues at all. Experience to date suggests that additional means to encourage and assist Parties to respond to requests for case studies are needed. Workshops can be a particularly useful mechanism to elicit reports, and the support of international organizations can be valuable. Particular efforts may be needed to support the preparation of case studies for the least developed countries and other small island developing countries.

Improving the availability and comparability of case studies, and encouraging their preparation and submission, will promote sharing of experience and analysis of lessons learned. The fifth meeting of the Conference of the Parties took a step in this direction by endorsing an outline for case studies on alien species.

At its second meeting, the Conference of the Parties requested Parties to organize a national clearing-house mechanism steering committee, gave advice on the content of information to be placed in the national CHM, and requested Parties to link national CHMs to the Convention's website through the Internet, where possible. By early

### **France**

*“Grasslands have decreased by 12%. Over the last 50 years wetlands have receded by tens of thousands of hectares. 20% of flora taxa are considered threatened.”*

Significant progress in biodiversity planning has indeed been made by many countries, but the development and implementation of national biodiversity plans which can make a real difference to current rates of biodiversity loss, and the commitment and capacity to implement such plans, are still some way in the future.

Seven national reports submitted to the Secretariat by developed country Parties contained figures on their biodiversity funding. Some of these contained information on specific environmental funding programmes of which biodiversity is an integral part. Examples include the Austrian Global Environment Cooperation Trust Fund administered by the World Bank, the Belgian Special Programme for Africa operated through the International Fund for Agricultural Development (IFAD), the Darwin Initiative established by the United Kingdom, the Phare and Tacis programmes developed by the European Commission, and the French Global Environment Facility (FGEF).

2001 the clearing-house mechanism network had 137 national focal points or “participating nodes” responsible for coordinating CHM activities at the national level. Fifty national clearing-house mechanisms had been linked to the Convention’s website, twenty from developed country Parties and thirty from developing countries or countries with economies in transition. However the information suggested by the COP in 1995 (country profiles, national biodiversity strategies and action plans, appropriate legislation, scientific and technological information, and financial sources) has broadly speaking not yet been made available through these mechanisms.

Many developing country Parties have received funding through the GEF’s biodiversity enabling activities for the establishment of their national clearing-house mechanism. The fifth meeting of the Conference of the Parties considered the independent evaluation of the pilot phase of the clearing-house mechanism, which had included seeking the views of Parties, and supported the implementation of the proposed strategic plan for the clearing-house mechanism. It identified a series of measures to be undertaken by Parties in the period 2001-2002. Chief amongst these were measures to establish or strengthen:

- National directories of scientific institutions and experts working on specific thematic areas of the Convention and to make these available through the clearing-house mechanism;
- A national baseline of existing scientific and technical cooperation initiatives relevant to the implementation of the Convention;
- National clearing-house mechanisms.

### **Implementation of policies and actions across international borders**

Many international initiatives exist bringing national Governments together for planning and implementing activities of potential relevance to the conservation and sustainable use of biodiversity. This is dealt with in more detail in the following chapter, but it is important to recognize here the strong influence that international agreements and programmes have on national action.

**International legislation** Within the European Union, and even beyond its boundaries amongst those countries aspiring to membership, national action is strongly influenced by EC policies and legislation (directives and regulations). For example, the EC Birds Directive and the EC Habitats Directive mentioned earlier require member States to identify and adequately manage protected sites for certain listed species – countries can be taken to court and fined for inadequate implementation of these directives.

**Information collection and management** The European Environment Agency (EEA) and the Organization for Economic Cooperation and Development (OECD) are amongst organizations requesting information from national organizations in standard formats, and in doing so providing leadership in promoting and harmonizing approaches to information collection and management. Within the Western Hemisphere, the 1996 Summit of the Americas called for the establishment of an Inter-American Biodiversity Information Network (IABIN) to promote compatible means of collection, communication and exchange of information relevant to decision-making. Similar efforts to develop better application of information within regions and themes can be found in other parts of the world.

**Kenya**

*“Woodlands, bushlands and wooded grasslands are decreasing at a rate of 50,000 hectares per year.”*

**Coordinated programmes** The countries of the Arctic region (Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden and the United States) are collaborating at an intergovernmental level on sustainable development and environmental protection in the Arctic. Within the context of the Conservation of Arctic Flora and Fauna (CAFF) and the Circumpolar Protected Areas Network (CPAN) national actions are being undertaken as part of a coordinated international programme.

**Mutual interest** The countries around some of the major rivers have a clear interest in jointly defining controls relating to water use and pollution, which also have implications for the conservation and sustainable use of biological diversity. This provides a strong influence on national action. Examples would be the agreements covering the Danube or Rhine rivers crossing Europe.

**AN IN-DEPTH CASE: AGRICULTURAL BIOLOGICAL DIVERSITY**

Decisions III/11 and IV/6 of the Conference of Parties called for Parties and others to provide the Executive Secretary with case studies on activities and instruments relating to agricultural biological diversity at international and national levels to help inform discussions at the fifth meeting of SBSTTA. There have also been a number of international workshops that have brought Parties together to discuss these issues.

A comparatively large amount of information is available about the status and trends of agricultural biodiversity at the national level, and about measures taken by Parties to promote its conservation and sustainable use. It is thus possible to present a synthesis of available information in greater depth than is possible in the case of other areas of implementation.

Agricultural biodiversity is a broad term that is taken to include all components of biological diversity of relevance to food and agriculture. For the purposes of the assessment carried out by the Executive Secretary, the following dimensions of agricultural biodiversity were identified:

- genetic resources for food and agriculture (species, breeds and varieties, their wild relatives, harvested wild foods), including:
- components of agricultural biodiversity that provide ecological services. These mainly fall under the heading “associated agricultural biodiversity” and include:
- abiotic factors, which have a determining effect on these aspects of agricultural biodiversity and, in line with decision III/11, were also addressed in the assessment;
- socio-economic and cultural dimensions, which were also considered, as cross-cutting issues, since agricultural biodiversity is largely shaped by human activities and management practices.

**Identification, monitoring and assessment**

Comprehensive data and information systems exist for the main genetic resources components (farm animals, crop plants, aquaculture, tree species, and some microbial species) and for the different abiotic resources that provide the basis for agriculture (water, land and use, climatic). Much of this information is compiled and managed by international rather than national organizations, although some countries have well developed information systems. Information on underutilized crops and some locally or regionally important staples (such as yams, bambara groundnut and cassava), as well as wild species of interest for food and agriculture, is scarce compared with major crops. (Though of course it is not scarce to the cultivators, highlighting again the importance of traditional knowledge

## Latvia

*“Between 1910 and 1995 coverage of grassland has decreased from 60% to 40%.”*

to the conservation and sustainable use of biodiversity, as well as to local and regional food security.) There is also much less information available generally on *in situ* resources in comparison with *ex situ* collections. It is clear therefore that there are major gaps or shortcomings in information systems.

Many countries have identified gaps in baseline data on animal genetic resources, in particular on wild/endemic and indigenous animal genetic resources. A global, country-driven assessment of the state of the world's farm animal genetic resources is planned under the guidance of the Commission on Genetic Resources for Food and Agriculture. Many countries in different regions have identified large gaps in baseline data on microbial genetic resources such as viruses, fungi and soil bacteria. Assessment of micro-organisms is generally limited to very few species of direct relevance to food additives, fixation of nitrogen and other nutrients, and plant and animal health.

Despite increasing scientific knowledge and understanding of the ecological functions of biodiversity and of the importance of sustainable functioning ecosystems, comprehensive monitoring and assessment systems are not yet available. Some relevant databases and information systems exist, but these are insufficient for assessing ecosystem function.

Species that provide essential services to agriculture such as pollinators, predators and soil biota, and a vast array of microbial species that contribute indirectly to food and agriculture, are inadequately assessed. Ecological functions of agricultural systems that contribute environmental benefits, such as wildlife habitats, watershed protection, landscape value, water quality need also to be incorporated in monitoring and assessment processes. Once identified and valued, these can provide the basis for agri-environmental policies that encourage productivity and sustainability.

Very little is being done systematically to bring together the data, information and associated tools required to address agricultural policy and management issues at the national, regional and global levels. There is an urgent need to promote the further development and application of indicators and assessment methodologies for the assessment of the status and trends of agricultural biodiversity and for the identification of biodiversity-friendly agricultural practice.

### Research, best practices and technologies

Many initiatives have been launched in recent years concerning on-farm management and improvement of plant genetic resources for food and agriculture. Initiatives reported by Parties include surveying farmers with a view to integrating on-farm conservation into the national conservation strategy and developing on-farm conservation programmes, with the support of FAO, IPGRI, and the International Fund for Agricultural Development. The CGIAR now supports many participatory plant breeding activities.

It has been widely recognized that the most efficient and feasible strategy for the conservation of forest genetic resources is conservation *in situ*, conserving targeted species, populations and genetic resources as parts of the ecosystems in which they occur. Most countries, in all regions, mention conservation of genetic resources through protected areas in their reports. A number of countries have supplemented this with very successful community forestry programmes.

A wide range of best practices and technologies in the area of agricultural ecosystem function are already available. These activities include identifying establishing demonstration sites, carrying out on-farm experiments, and promoting awareness and training. There are also examples of national efforts to conserve soil resources in the *cerrados* of Brazil, farmer-organized minimum tillage programmes

have resulted in the rehabilitation of previously damaged soils, leading to increased productivity. Many traditional integrated production systems, such as home gardens, agro-forestry systems, rice-aquaculture systems, and the use of features such as hedgerows as ecological corridors along watercourses and roads, etc., can provide for high levels of diversity at the landscape level with mosaics of land-use types.

National initiatives include the development of the sustainable agricultural village concept in China for maintaining and restoring environmental conservation functions and natural ecosystems and landscapes, development of environmental farm plans in Canada, integrated farming systems in Thailand, and comparative analysis of different farming methods in Western and Central Europe.

Many countries have identified the lack of public awareness of agricultural biodiversity as a key constraint to improvement in this area. Public awareness campaigns could help to demonstrate the inter-relationships between the conservation of biological diversity and the management of agricultural systems, as well as the ecosystem service value of agricultural biodiversity. The organic agricultural movement has helped substantially to promote ecologically sound approaches. Guidelines for organic agriculture have been developed to promote its adoption, and incentives are provided through consumer demand.

In many cases, a wide range of case studies are already available on best practices and lessons learned from past experiences and experiments. These valuable experiences, both positive and negative, should be learned from and taken into account for future research initiatives. However, more understanding is needed of the multiple functions of biodiversity in production systems. A greater focus on the ecosystem approach is needed, including coordinated research in

different agro-ecosystems, and under different management practices, to quantify the direct and indirect contributions of agricultural biodiversity.

### **Strategies, programmes and action plans**

While most Parties have developed NBSAPs, only a few countries have reported the development of comprehensive strategies and action plans for the conservation and sustainable use of agricultural biodiversity. These include, for example, Bhutan, Canada, Hungary, India, and some countries in Western Europe. Overall more attention is given in the plans to the main animal and plant genetic resources components of agricultural biodiversity, and less attention is paid to the biological support system and the different production systems and agro-ecosystems.

There are examples in each region of ongoing GEF-funded programmes and projects on agricultural biodiversity, however the number of approved projects and funding volume for agricultural biodiversity has remained low in comparison to other thematic areas. The GEF has been taking steps to ensure that there are more opportunities to formulate and present relevant projects.

Countries have reported much progress in the area of strengthening of national programmes on crop genetic resources in particular, despite reductions in funding to national agricultural research systems. Several countries have held national workshops, which have helped further define national priorities, and stimulate the formation of national committees. At the same time, countries also report a wider involvement of stakeholder groups.

## Mongolia

*“Only 2% of pastures have not been degraded. Of the remaining pastures 50% are considered to be mediumly degraded and 1.5% very highly degraded. Between 1971 and 1997 forest and steppe fires destroyed over 14 million hectares of land.”*

A number of countries have developed programmes to promote sustainable agriculture that could provide the basis for promoting the conservation and sustainable use of agricultural biodiversity. In some cases, biological diversity issues are also being integrated into land-use planning and sectoral agriculture, forestry and fisheries programmes (e.g. Bhutan, Mozambique and several countries in Western Europe).

A concerted and coordinated effort that addresses the various components of agricultural biodiversity depends upon a coherent framework to guide national strategies and actions for the conservation and sustainable use on agricultural biodiversity. Integration of agricultural biodiversity considerations in national agricultural strategies and action plans, including forestry and fisheries, is necessary, as well as into environmental programmes, such as national environmental action plans (NEAPs) and environmental strategies and policies addressing specific resources such as forest and wildlife resource.

The agricultural sector is very complex and there are many different stakeholders that need to be involved in the planning and development process. These include producers (farmers, foresters, fishers), community leaders, the technicians and policy-makers in diverse sectors including agribusiness and development agencies, as well as the consumers that influence market demand. Coordinating mechanisms and transparent consultative processes are required to allow exchanges, negotiation and conflict resolution between different stakeholders, and to provide effective feedback mechanisms between producers and the technical and policy levels. This is crucial in the identification of issues and priorities, the design of appropriate strategies and actions, and the monitoring and evaluation of the performance and impacts (cost-effectiveness and impact) of programmes and actions.

## Policies and legislation

The extent to which specific national policies and legislation on agricultural biodiversity have been developed varies greatly between countries. For example, most countries have legislation concerning seed certification and variety release, but few have legislation specific to microbial genetic resources. However this is an area of rapid change as understanding of the importance of genetic resources increases, and many countries are reporting changes in the last five years in legislation on matters such as plant breeders' rights and other relevant intellectual property rights, and access legislation.

Many countries have national legislation on factors affecting ecosystem functions and services, such as the reduction of chemical inputs, conservation farming practices and introduction of alien species. Legal arrangements that address the landscape and ecosystem level have been addressed most substantially within the European region, in part led by the European Commission.

Several countries have identified the need for policies and legislation that encourage sustainability through incentive measures and benefit-sharing arrangements. Land tenure issues and appropriate land-use policies are cited as important issues for conservation and sustainable use to reduce excess exploitation and unregulated access to biological resources.

There is a clear need to develop further coherence at national, regional and international levels between policies and legislation developed to address the conservation and sustainable use of agricultural biodiversity, including access and benefit-sharing, and between these and other policies and legislation that have an impact in these areas.

## Norway

*“Hay meadows have largely been abandoned. In 1959, semi-natural hay meadows accounted for more than 10% of the total agricultural area. By 1989, this had dropped to less than 5% in large parts of the country and to less than 0.5% in certain areas.”*

### CONCLUSION

The Convention establishes an interconnected web of obligations on countries to conserve biological diversity, to use the components of biodiversity in a sustainable way, and to share the benefits arising out of the use of genetic resources:

- Articles 8 and 9 contain a comprehensive list of categories of measures to be taken in order to promote conservation of biodiversity;
- Article 10 provides that, to ensure sustainable use of biodiversity, Parties will need to integrate biodiversity into national decision-making, avoid or minimize adverse impacts on biodiversity, encourage compatible customary uses, support remedial action in degraded areas, and involve the private sector in developing methods for sustainable use;
- Articles 15 to 19 contain categories of measures that countries that provide genetic resources and countries that acquire genetic resources both need to take to ensure that the benefits that arise are shared fairly and equitably.

Parties will find it difficult to move forward on a secure basis in identifying and implementing the appropriate measures, without having completed the first cycle of the identification and monitoring measures specified in Article 7 through:

- Identifying components of biological diversity important for its conservation and sustainable use;
- Monitoring these, particularly those requiring urgent conservation measures and those offering the greatest potential for sustainable use;

- Identifying activities likely to have significant adverse effects on biological diversity;
- Maintaining data on all the above.

Article 6 is fundamental in this regard. It requires Parties to develop national biodiversity strategies and action plans (or adapt existing strategies) and mainstream biodiversity into all sectors. Procedures recommended by the Conference of the Parties for developing national biodiversity strategies start with the need to identify the biodiversity within the country and assess its status, if this hasn't been done. With this assessment, and having identified an institutional framework and operational responsibilities, the strategy can then be developed to address the three objectives of the Convention in the light of national circumstances.

It is the central importance of having a national strategy and action plan as the cornerstone of national action to implement the Convention that led to the decision by the Conference of the Parties that, in the first round of national reporting, countries should focus on their implementation of Article 6.

However, as we have seen, in many cases the development of the national biodiversity strategy has been slower and more complex than anticipated. Few developing countries were in a position to report on a completed process by the time the first reports were due. A number of developed countries were similarly unable to report on the completed process.

This means that, following the first round of reporting in 1997-98, there is no comprehensive basis on which to answer the question “What do we know about progress, constraints, and emerging issues?” in implementing each of the objectives of the Convention – conservation, sustainable use, and benefit sharing.

For this reason the Conference of the Parties has adopted a new reporting format for future rounds of national reporting, designed to bring out information about all the measures Parties have been requested to take, deriving from the provisions of the Convention and from decisions of the Conference of the Parties. It is hoped that this will provide the comprehensive overview of progress, constraints and emerging issues on each aspect of implementation needed to allow a global analysis of the state of national implementation of the Convention. This analysis will form the central focus of the next edition of the *Global Biodiversity Outlook*.