

Sweden and the Convention on Biological Diversity

Summary of Sweden's third National
Report to the Secretariat of the
Convention on Biological Diversity

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of the Convention on Biological Diversity

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Preface

The eighth Conference of the Parties to the Convention on Biological Diversity took place in March 2006. Ever since the Convention came into effect in 1993, its Signatory Parties have devoted their recurrent meetings to specifying the meaning of the Convention and the action countries should take to comply with it. To determine ahead of the meeting whether the aims of the Conventions were being met, each country was sent an extensive questionnaire in the autumn of 2004 and told to submit a third National Report on the implementation of the Convention. A further purpose of such national reporting is to stimulate countries to identify ways of improving and rationalising their own work. Sweden's report was drawn up by the Swedish Environmental Protection Agency (EPA) with the assistance of the Swedish Biodiversity Centre and with the participation of various government agencies and other organisations. The task assigned to the Swedish EPA also included the production of a brief 'popular version' of the report. The bodies consulted during the work on the full report have been given the opportunity to participate in the preparation of this summary as well.

The Signatory States of the Convention use different approaches in their implementation of the Convention. Sweden's work is based on the environmental quality objectives established by Parliament, which constitute a platform for political work and measures at the national, regional and local levels. In addition, important contributions are made on a voluntary basis. However, a large part of the work contributing to the implementation of the Convention is carried out with no explicit reference to the texts of the international decisions to which it is nevertheless related. It is hoped that this popular version of Sweden's National Report will reinforce links between the international processes and all of the useful work carried out in Sweden. Clear channels to the global contexts will stimulate us to perform even better while also helping other countries achieve the objectives of the Convention.

The Project Manager for this work has been Lars Berg of the Swedish EPA. Facts have been retrieved from Sweden's official report and compiled by Oloph Demker of the Swedish Biodiversity Centre. The text has been revised by Lars Berg in collaboration with Mona N'Dure, Anki Weibull and others at the Swedish EPA. The Swedish EPA assumes responsibility for the contents of this publication.

I would like to thank the Swedish Biodiversity Centre for its work in the production of the full report as well as the present summary. Many thanks are also owed to all those who contributed material.

Stockholm, June 2006

Björn Risinger

Director, Natural Resources Department of the Swedish EPA

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Summary

Sweden ratified the Convention on Biological Diversity (CBD) in 1993, and has on three occasions reported on the national status of implementation of the convention. The third National Report was submitted in 2005. It was prepared by the Swedish Biodiversity Centre and finalised by the Swedish Environmental Protection Agency, after wide consultations with national and local authorities, non-governmental organisations and the scientific community. The present publication aims to summarise Sweden's third National Report and to make its main findings accessible to a wide audience, including those involved in the consultation as well as the general public. The preparation of the summary has involved those same actors that produced the report itself.

The Swedish Parliament has decided to integrate its biodiversity strategies and action plans into the framework of the 16 environmental quality objectives, which were adopted in 1999 and revised most lately in 2005. The National Report gives an overview of how the content of the 16 objectives corresponds to the articles and work programmes of the CBD. One main finding is that the Swedish environmental quality objectives cover most of the national aspects of the CBD, while the international aspects and obligations are treated in other, more specific policy documents.

The main messages of the report are summarised in Figure 3, where the articles of the CBD are ranked according to how severe obstacles their implementation faces in Sweden. The degree of implementation of the decisions taken by the Conference of the Parties on the different articles is tentatively summarised on a scale ranging from 1 (crucial deficiencies) to 3 (no serious deficiencies). In summary, some articles (5, 6, 12, 17 and 20) were found to be satisfactorily implemented, while others (Articles 8(h) and 15) were found to have crucial deficiencies in their degree of implementation. Lack of mainstreaming of biodiversity into other sectors, as well as conflicts of interest, were found to be prominent obstacles preventing the full implementation of these articles. In some cases (such as for Articles 10, 11 and 14) the implementation of decisions has come a long way in spite of difficult obstacles. In other cases (most notably Articles 13 and 18) it appeared that no obstacles could be identified that could explain their lack of full implementation. The report did not, however, analyse these cases in any depth.

During the preparation of the report, many consultees reported their frustration with the language of the questionnaire, as well as with the large number of partly overlapping questions. The fact that most actors and stakeholders were unfamiliar with the language and decisions of the Conference of the Parties to the CBD made it clear that Sweden's ambitions in the global political process to conserve and sustainably use biological diversity have not been well enough communicated within the country itself.

Background of the report

The Convention on Biological Diversity (CBD) is a result of the United Nations Conference on Environment and Development (UNCED), which took place in Rio de Janeiro, Brazil, in 1992. Its aim is for countries to cooperate loyally to safeguard the diversity of life on Earth; and most of this diversity is found in tropical areas, which are largely located in the poorest countries of the world. The fundamental idea underpinning the CBD is the promotion of a will to preserve biological diversity by taking advantage of and developing methods to use nature in a sustainable way while ensuring that the benefits are distributed fairly. Particular emphasis has been placed on the use of genetic resources in sectors such as pharmaceuticals and plant and animal breeding. The participating countries have been given better opportunities to control their genetic resources, including traditional knowledge relating to their possible uses. Any benefits created by the use of such resources should be distributed fairly. Recent years have also yielded a better understanding and enhanced knowledge of the crucial services provided by well-functioning ecosystems, such as water purification, climate regulation and soil formation. Failing ecosystem services are a critical problem today as regards people's ability to support themselves, especially in poor countries.

Since organisms and environmental problems do not stop at national borders, our work must be coordinated to be effective. There is also an idea of fairness inherent in the concept of joint efforts: if one country is to make an effort and forsake immediate gain for the long-term good of us all, it is important that other countries do their bit as well. By agreeing on the work to be done, we can achieve more than we could through national initiatives alone.

Since the creation of the CBD, large areas of valuable nature have been afforded protection from exploitation. The ideas relating to sustainable use included in the CBD have increasingly informed international discussions on sustainable development and poverty reduction, even though a great deal of concrete action still needs to be taken to translate these ideas into practice. However, the most substantial implementation problems are encountered as regards the CBD's articles on the distribution of benefits from the use of genetic resources. Many countries, feeling that they have been deprived of their fair share of the benefits when genetic material originating on their territory has been patented, have enacted very strict legislation regulating access to their national genetic resources. This makes it more difficult to carry out important research, including to build scientific support for the implementation of the CBD, and the operations of institutions such as museums, research centres and botanical gardens across the world have been very seriously affected.

There are many international agreements regulating the conservation and use of biological diversity – besides the CBD, they include the Convention on Migratory Species, the Ramsar Convention on Wetlands, the UN Forum on

Forests and the CITES Convention on trade in endangered species. Within the UN Food and Agriculture Organisation, agreements have been concluded on the use and conservation of biological diversity in agricultural plants and domesticated animals. In addition, there are a number of agreements within the UN and the World Trade Organisation which indirectly concern biological diversity or which overlap with the social and economic dimension of the CBD, such as intellectual property rights in relation to genetic resources and traditional knowledge. According to Sweden's policy, all of these agreements are to support each other and to have the same level of priority. At the same time, the overall principle guiding Sweden's international action is that it should contribute to fair and sustainable development across the world. Our commitment to the CBD should be seen in this context.

Sweden's third National Report to the CBD Secretariat was drawn up at the request of the Conference of the Parties, i.e. all participating countries. By answering a large number of questions asked by the Conference of the Parties, the report fit into a global process of reporting on and evaluating the importance and methods of the CBD to ensure an equitable and long-term sustainable approach to biological diversity. The questions included in the report template referred to major joint decisions taken to facilitate the implementation of the CBD articles and programmes of work. All national reports can be downloaded from the CBD Secretariat at <http://www.biodiv.org/reports/default.asp>.

Global vs Swedish objectives

The various articles of the CBD provide overall guidelines for the work to be carried out by the individual countries in the field of biological diversity. However, the CBD cannot lay down in detail what should be done in each country – that is a decision to be made by the countries themselves against the background of their particular circumstances. Recurrent national reporting is an important tool to follow up the interpretation and implementation of the international decisions in various countries, but also to exchange experiences among and within countries.

Global guidelines

To facilitate the implementation of the CBD, the Conference of the Parties has adopted a number of thematic programmes of work, guidelines, strategies and protocols, which are more or less binding. The thematic programmes of work are of central importance. Each of them relates to a major biome such as forests, inland waters, marine and coastal environments, dry and sub-humid lands, mountains, and the agricultural landscape. An idea permeating work on all themes is that biological diversity should be seen from a 'landscape perspective' including economic and social factors. This view is summed up in the 'Ecosystem Approach'. Other programmes of work cut across the various biomes, focusing on important methods and tools such as area protection, taxonomy (determination of species) and the transfer of technologies and expertise to developing countries. Guidelines have been drawn up for countries' work relating to invasive alien species, the preservation of traditional knowledge about biological diversity, the development of tourism, the sharing of benefits from genetic resources, the application of the Ecosystem Approach and the concept of sustainable use. There is also the Biosafety Protocol, which regulates the movement of genetically modified organisms between countries, and the Global Strategy for Plant Conservation.

Sweden's environmental quality objectives

Sweden's work to preserve biological diversity dates back to the early 20th century. The first laws of a more comprehensive kind were enacted in the 1960s. When Sweden ratified the CBD in 1993, the Swedish Parliament adopted a new national strategy for Sweden's work to promote biological diversity, reflecting the new global views. Then government agencies such as the Swedish EPA, the National Board of Forestry, the Swedish Board of Agriculture, the National Board of Housing, Building and Planning and the National Board of Fisheries drew up action plans for biological diversity in their respective sectors. These documents were developed as a means of com-

Environmental quality objectives set by Parliament

In April 1999, the Swedish Parliament adopted 15 environmental quality objectives. A 16th objective, relating specifically to biological diversity, was adopted in November 2005. The 16 environmental quality objectives are intended to guide our efforts to achieve environmentally sustainable social development. These objectives have become benchmarks for all environmental work in Sweden, regardless of where or by whom it is carried out. The 16 objectives are the following:

1. Reduced climate impact
2. Clean air
3. Natural acidification only
4. A non-toxic environment
5. A protective ozone layer
6. A safe radiation environment
7. Zero eutrophication
8. Flourishing lakes and streams
9. Good-quality groundwater
10. A balanced marine environment, flourishing coastal areas and archipelagos
11. Thriving wetlands
12. Sustainable forests
13. A varied agricultural landscape
14. A magnificent mountain landscape
15. A good built environment
16. A rich diversity of plant and animal life

plying with Article 6 of the CBD on general measures for the conservation and sustainable use of biological diversity. It was established at an early stage that the CBD's aim of preserving variation at the genetic, species and ecosystem levels implied a commitment to promote the survival of Sweden's biological diversity, regardless of the global situation of species which are threatened in Sweden, but that cooperation across national borders is an important instrument to achieve this aim. Another enduring cornerstone of Sweden's environmental work has been that objectives and plans should be developed and implemented by both government agencies and private stakeholders within each sector.

Since 1999, environmental work in Sweden has been carried out on the basis of Parliament's environmental quality objectives, which have thus assumed the controlling function previously fulfilled by the strategy and the action plans. Under each environmental quality objective, more detailed targets have been defined. These targets relate to the achievement of a certain level of environmental quality or the implementation of certain measures by a certain date.

The environmental quality objectives have been designed to cover all biomes existing in Sweden and to take into account the terms and conditions of several international conventions. Because of this, there is no exact structural match between the environmental quality objectives and the CBD articles. However, the environmental quality objectives, taken together, do make up the framework which guides our efforts to comply with the requirements of the CBD.

A closer look at the text of the CBD shows that Articles 6–14 deal mainly with the internal work of individual countries. The principal concern of Articles 5 and 15–20 are relations with other countries. While the first group of articles fits clearly into the Swedish structure of environmental quality objectives, international aspects are handled for the most part using other instruments (Figure 1): international aid and cooperation on research and training as well as other international activities.

CBD Articles	Relevant Swedish environmental quality objectives															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
5. Cooperation	•	•	•	•	•		•	•		•	•	•	•	•		•
6. General measures	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
7. Identification and monitoring								•		•	•	•	•	•		•
8. <i>In situ</i> conservation								•		•	•	•	•	•		•
9. <i>Ex situ</i> conservation													•			
10. Sustainable use	•	•	•	•			•	•	•	•	•	•	•	•	•	•
11. Incentive measures	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
12. Research and training	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
13. Public education and awareness														•		•
14. Impact assessment and minimising adverse impacts	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
15. Access to genetic resources														•		
16. Access to and transfer of technology																
17. Exchange of information																
18. Technical and scientific cooperation																
19. Handling of biotechnology and distribution of its benefits																
20. Financial resources																

Figure 1. The 16 environmental quality objectives set by Parliament constitute the basis for efforts relating to nature conservation and the environment undertaken in Sweden. The table shows which of the environmental quality objectives reflect various aspects of CBD Articles 5–20. While the CBD and the environmental quality objectives interlock to a large extent, there are areas of the CBD which lack a counterpart among the environmental quality objectives, and vice versa.

Similarly to the articles of the CBD, the various programmes of work and guidelines can be related to the Swedish environmental quality objectives (Figure 2). The thematic programmes of work often link in with only a few environmental quality objectives each, which is because they are also based on a crude classification of biomes. On the other hand, the cross-biome programmes of work and guidelines for area protection, alien species and sustainable use, and the Global Strategy for Plant Conservation, are covered by a larger – though varying – number of environmental quality objectives. The Ecosystem Approach is specified and further applied through the Strategy for the Management of Land, Water and the Built Environment which was recently adopted by Parliament.

The efforts undertaken in Sweden to promote biological diversity have translated into an increase in financial resources over the past few years. In 2004, an estimated 2 billion SEK of public funds was allocated to environmental work. To this should be added the substantial amounts spent by individuals, by business and industry and by non-governmental organisations to protect biological diversity in Sweden and in the rest of the world.

	Relevant Swedish environmental quality objectives															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Programmes of work:																
Forests			•	•								•				•
Inland waters			•	•			•	•	•		•					•
The agricultural landscape				•			•			•	•		•			•
Marine and coastal				•			•			•						•
Mountains				•				•			•			•		•
Protected areas								•		•	•	•	•	•	•	•
Taxonomy																
Technology transfer																
Guidelines:																
Alien species								•			•	•	•	•		•
Ecosystem Approach							•	•		•	•	•	•	•	•	
Traditional knowledge												•				•
Sustainable use								•		•	•	•	•	•	•	•
Tourism																
Access to genetic resources																
Global strategy:																
Plant conservation								•		•	•	•	•	•		•
Protocol:																
Biosafety																

Figure 2. Relationship between various instruments created under the CBD and the environmental quality objectives set by Parliament. The table shows which of the environmental quality objectives reflect various aspects of the CBD programmes of work, guidelines, etc.

The 2010 target

To put extra pressure on governments, the sixth Conference of the Parties to the CBD (2002) decided to establish points of reference for CBD work within a tighter timeframe. It therefore set the target that a significant reduction of the rate of loss of biological diversity should be achieved by 2010. The European Union had adopted an even more ambitious target already in 2001, namely to 'halt' the loss of biological diversity by the same year. The global 2010 target includes several specific objectives and actions to be undertaken in line with the CBD's overall aims of conservation, sustainable use and fair distribution of benefits.

The 2010 target played an important part in the formulation of Sweden's 16th environmental quality objective, 'A rich diversity of plant and animal life', which was adopted in 2005. Sweden is well placed to achieve several of the specific global objectives but also manifests shortcomings on several counts. These shortcomings are found mainly in the areas relating to the control of imports and exports of species, action to alleviate the effects of climate change, the conservation of Sweden's genetic diversity and measures to ensure that other countries can exercise their rights to their own genetic resources.

Many have criticised the 2010 target, claiming that it is unrealistic to believe that the loss of biological diversity can be stopped by 2010 and that it is also impossible in practice to determine whether the target is actually achieved. Nevertheless, this target is absolutely essential in that it reflects a realisation among policy-makers that the global loss of biological diversity is an alarming problem.

Implementation of the CBD in Sweden

Sweden's National Report is based on material provided by government agencies, local authorities, research institutions and non-governmental organisations. However, most of the material comes from a limited number of central government agencies which the Swedish EPA frequently collaborates with. As a consequence, it is doubtful whether the report can provide a complete picture of work contributing to the implementation of the CBD in Sweden. In fact, much of what is done outside the circle of central government agencies, for instance by landowners and businesses, is reflected less well in the report. There is thus a risk that important alternative perspectives and views may not have been included.

Countries differ in their ability to comply with the CBD and in the severity of the obstacles they must negotiate in trying to do so. Unlike what may be the case in other countries, there are no circumstances facing Sweden which make it impossible to fulfil any of the obligations under the CBD. The report deals with various factors which obstruct the implementation of the CBD. These obstacles can be divided into three categories: those due to conflicts between biological diversity and other interests (mostly economic ones but also interests relating to convenience and leisure activities); those due to the organisation of society; and those due to the lack of important knowledge. However, not all shortcomings in implementation can be attributed to identified obstacles – and, inversely, there are examples of CBD articles which are reasonably well complied with despite the existence of severe obstacles.

The most prominent obstacles to implementation in Sweden can be found in relation to CBD Articles 8 (especially 8(h)), 10, 11 and 14 (Figure 3). As regards Article 15, there are clear obstacles to compliance with the requirement for mechanisms to share the benefits from the use of genetic resources, while we seem to have found it easier to follow the provisions on making our own genetic resources accessible.

Very few obstacles have been identified which prevent either enhanced awareness and knowledge of biological diversity or improved technical and scientific cooperation within Sweden and with other countries. In fact, improvements in these fields could be of major importance to biological diversity both in Sweden and abroad, and it would appear that a great deal could be achieved through relatively small efforts.

Figure 3 gives a rough estimate, on a scale from 1 to 3, of how well the various CBD articles and the related decisions taken by the Conference of the Parties have been implemented in Sweden. While it is of course open to discussion whether it is possible to summarise the work carried out in such a crude manner and whether the scores are fair, the purpose of this table is to make it easier for readers to assimilate the content of the report. However, it

needs to be stressed again that the report can reflect only the material contributed by its informants – for the most part, central government agencies.

CBD Articles	Type of obstacle	Implementation score
Article 11: Incentive measures	Organisational, conflicts of interest, lack of knowledge	2 ☹
Article 8h*: Alien species	Conflicts of interest, lack of knowledge, organisational	1 ☹
Article 14: Impact assessment and minimising adverse impacts	Organisational, lack of knowledge, conflicts of interest	2 ☹
Article 10: Sustainable use of components of biological diversity	Conflicts of interest, lack of knowledge, organisational	2 ☹
Article 8j*: Traditional knowledge	Organisational, lack of knowledge	2 ☹
Artikel 8: <i>In situ</i> conservation	Lack of knowledge, conflicts of interest	2 ☹
Article 9: <i>Ex situ</i> conservation	Organisational	2 ☹
Article 15: Access to genetic resources and equitable sharing of their benefits	Conflicts of interest, organisational	1 ☹
Article 12: Research and education	Organisational	3 😊
Article 7: Identification and monitoring	Organisational	2 ☹
Article 6: General measures for conservation and sustainable use	Conflicts of interest	3 😊
Article 16: Access to and transfer of technology	Conflicts of interest	2 ☹
Article 19: Handling of biotechnology and distribution of its benefits	Lack of knowledge	2 ☹
Article 13: Public education and awareness	-	2 ☹
Article 17: Exchange of information	-	3 😊
Article 20: Financial resources	-	3 😊
Article 5: Overall cooperation with other countries	-	3 😊
Article 18: Technical and scientific cooperation	-	2 ☹

Figure 3. In the survey carried out, respondents were told to evaluate various factors considered capable of obstructing the implementation of the CBD articles. This table shows how the articles can be ranked according to the severity of the obstacles to their implementation and the number of types of such obstacles. The right-hand column summarises the degree of implementation of the CBD articles in Sweden from the perspective of the decisions taken by the Conference of the Parties as reflected in the third National Report.

1 = Crucial deficiencies;

2 = A single serious deficiency or several minor deficiencies;

3 = No serious deficiencies.

* Sub-articles 8(h) and 8(j) are presented separately because they have been given particular importance through specific guidelines, programmes of work, working groups and expert groups.

The overall, strategic actions taken by Sweden pursuant to Article 6 were mainly described in the previous section. In the following, the implementation in Sweden of the remaining articles and of the programmes of work will be described in four sections:

- (1) Actions for the sustainable use, conservation and monitoring of biological diversity;
- (2) Research, training and provision of information to the general public;
- (3) Public participation in actions and decisions;
- (4) Cooperation with other countries.

1. Actions for conservation, sustainable use and monitoring

Article 7 concerns measures for the identification and monitoring of biological diversity. Harmful processes and threats are often discovered indirectly through surveys of the distribution of species. Many species can be used as indicators of the state of the environment. The Swedish Species Information Centre produces, once every five years, extensive lists of threatened species ('red lists') according to the international criteria established by the World Conservation Union (IUCN). Certain groups of species are the subject of continuous monitoring, such as the large predators, but annual inventories are made of the Arctic fox and various species of seal and eagle as well. In addition, most species of freshwater fish as well as plankton and the flora and fauna of hard bottoms are included in ongoing environmental monitoring. Of the 200 or so species of marine fish found off the coasts of Sweden, 50 are being monitored through test fishing. Selected species of vascular plant, moss and lichen are monitored within the framework of the Swedish National Forest Inventory.

JANOS JURKA/PIXELFACTORY



Sweden's population of Arctic fox is being regularly monitored and is considered to be critically endangered. An action programme established in 1999 aims to improve the status of the Arctic fox through support feeding and other measures.

However, ecosystem-level rather than species-level inventories have traditionally been given the most attention. In this field, there are a range of programmes and initiatives such as the Inventory of Meadows and Grazing Land, the Wetlands Inventory and the Inventory of Key Habitats. A recent initiative is the National Inventory of Landscape in Sweden. However, a persistent shortcoming is the lack of detailed classification of vegetation and land use in Sweden, and there is also no comprehensive digital map of vegetation. The mapping of sea, lake and stream bottoms is particularly inadequate.

Another shortcoming is the dispersion of knowledge about the state of the Swedish environment across various databases at different government agencies. Indeed, the lack of overview was found to be so serious that the Government set up a commission of inquiry in 2005 to make an inventory of all information databases and suggest measures to enhance coordination.

Article 8 concerns work to protect ecosystems and organisms in their natural environment – *in situ*. Each year, hundreds of million SEK is spent in Sweden on establishing protected areas, above all in forests, for instance through the acquisition of land or through the payment of compensation for restrictions to rights of use. Moreover, major efforts are made to develop and implement action programmes in order to save the most imperilled species, both within and outside protected areas. In recent years, several large protected areas have been established, such as the Fulufjället and Söderåsen National Parks and the Granlandet and Tervavuoma Nature Reserves. On the other hand, marine and aquatic environments are still comparatively neglected in Swedish nature conservation; the Nature Conservation Policy of 2002 points out the need to change this. A number of marine reserves have been created in recent years, and certain streams and stretches of coast are part of protected areas, such as Natura 2000 areas. A persistent challenge as regards area protection is the reconciliation of interests which is sometimes necessary when the measures required to preserve cultural heritage assets and nature assets located on the same land turn out to diverge.

The provisions laid down in Article 14 on environmental impact assessment and on minimising the adverse impact of environmentally harmful projects are central to *in situ* protection. The rules on environmental impact assessment included in the Swedish Environmental Code are Sweden's way of complying with Article 14. The risk of harm to biological diversity is one of the criteria for determining whether and, if so, how an environmental impact assessment should be performed. However, a commission of inquiry whose findings were presented to the Swedish Government in 2004 showed that this is often not enough to ensure compliance with Article 14 and that the CBD guidance is used in only about 15 per cent of the environmental impact assessments performed in Sweden. What is more, for the vast majority of the projects concerned there are no requirements for monitoring and follow-up after the start of project activities. The principal obstacles here are said to be inadequate cooperation, a lack of interest and commitment on the part of the general public, and the failure by government agencies to take initiatives.

At the global level, one of the largest threats comes from invasive alien species which establish themselves in a new place and eliminate domestic bio-



The giant hogweed has been introduced to Sweden. It often forms large stands and may displace other vegetation. In addition, it is harmful to people and animals because its sap may cause eczema and slow-healing sores.

logical diversity, leading to homogenisation and alteration of ecosystems (Article 8(h)). In many cases, the spread of alien species is helped by human activities such as trade and transport. We are generally good at protecting people, domesticated animals and agricultural crops against the negative impact of alien species, but we are much worse at protecting the biological diversity of wildlife. Sweden has only preliminary risk assessments of the threats that alien species may pose to our ecosystems. We lack effective mechanisms to monitor the import and export of organisms or to fight alien species which have already established themselves in Sweden. Moreover, our opportunities to restrict above all the involuntary movement of species are also limited by other international commitments, for instance in the field of trade. To protect agricultural crops and species of tree used in forestry, Sweden – along with the rest of the European Union – applies the International Plant Protection Convention, whose Signatory States have committed to broadening its mandate to include the protection of wild plant species against invasive alien species. Sweden also cooperates, under the aegis of the Baltic Marine Environment Protection Commission (HELCOM), with the other countries bordering on the Baltic Sea to counteract the introduction of alien species by way of the water ballast tanks of ships. However, much work remains to be done before it can be claimed that this problem has been solved.

Sometimes, extremely imperilled species must be protected through breeding or cultivation outside their natural habitat. Such *ex situ* protection is regulated by Article 9 of the CBD. Most measures taken in this context concern domesticated animals and cultivated plants. The work to keep native Swedish breeds of animals alive is mainly carried out on a non-profit basis by individuals and associations and is thus vulnerable. This is an area where there is

room for considerable improvement as regards cooperation among government agencies, research institutions and European Union programmes. The new National Council on Animal Genetic Resources is intended to facilitate such contacts, and a national programme for the genetic resources of domesticated animals is being prepared. Work regarding plants, however, has progressed further. The Programme for Diversity of Cultivated Plants, which started in 2000, carries out inventories of cultivated plants, documents knowledge in relation to such plants and collects plant varieties. The Nordic Gene Bank is responsible for preserving variation as regards a number of crops and also participates in cooperation relating to other crops within the Programme for Diversity of Cultivated Plants. There is also a national plant database ('SKUD') of information about the names and varieties of all kinds of plants cultivated in Sweden, which is freely accessible to anyone and managed by the Swedish Biodiversity Centre. While Sweden's botanical gardens generally do not participate actively in work relating to wild Swedish species, they do contribute to the conservation of the global flora.

MATS WILHELM/PIXELFACTORY



Wild animals and plants have a lower priority in this context, since the principal aim is to preserve them in their natural habitats. The Nordens Ark foundation and a number of other zoological gardens and parks do engage in research, breeding, reintroduction and dissemination of information as regards threatened animals, but Sweden has no government agency which is responsible for reintroducing threatened animals to the wild.

Article 10 concerns the very core of the CBD – the use of biological diversity in a long-term sustainable manner. The CBD's definition of 'sustainable use' implies that resources should be used in a way which takes into consideration both the actual resource and all of the biological diversity found in the ecosystem and adjacent areas concerned, and very strict requirements are imposed as regards measures to minimise the harm caused by use. However,

we do not at present have any detailed description of how to use a natural resource sustainably according to the CBD's definition. This makes it difficult to claim that our use of biological diversity is sustainable in the CBD's sense. Another problem is that other interests often force us to abstain from trying to achieve sustainability even though we know that the present form of use is unsustainable. One example of this relates to the conservation of several species of fish, where the implementation of the European Union's Common Fisheries Policy has so far proved difficult to reconcile with sustainable use. However, efforts undertaken to stop fishing for about 20 threatened species and to restrict trawling in sensitive areas have led to important improvements. The Swedish policy of letting the individual economic sectors assume responsibility for the impact of their activities on the environment and on nature conservation has resulted in substantial progress, but there remains a great deal to be done to ensure the long-term sustainable use of our natural resources and the ecosystems which provide us with them.

Article 10 is closely linked to Article 11, which concerns incentive measures. This article has a high priority in Sweden's work to implement the CBD but is still felt to face the most severe obstacles. Important obstacles identified by the report are, first, the market's demand for cheap natural and agricultural products and, second, the challenges of developing good incentives for sustainable use within the framework of the international trade agreements signed by Sweden.

To promote the sustainable use of biological diversity, Sweden has enacted laws requiring concern to be shown for the environment and introduced a variety of financial instruments, mainly aimed at local authorities and the agricultural and forestry sectors. Some of these instruments are linked to the European Union's structural funds and rural development programmes. There is also a wide range of public and private training and other initiatives to support the conversion of agriculture, horticulture, animal husbandry, forestry, fisheries, etc., to more sustainable practices.

A large share of the budget for nature conservation is spent on financial instruments intended to promote the conservation and sustainable use of biological diversity. The Local Investment Programmes are a prominent example of incentives promoting regional efforts, with a total of 195 projects under way across Sweden to develop biological diversity in various settings. Another government support programme which will last until 2010 allocates money to about 1,000 nature conservation projects at the level of local authorities. These projects must be part-financed with regional and local funds.

Another example of a relatively successful policy instrument is the financial support provided as part of the European Union's Common Agricultural Policy to preserve the biological diversity of the cultural landscape, for instance through the management of meadows and pasturelands. However, this instrument has been called into question internationally because many see it as a covert trade barrier against poorer countries. Further, the Swedish Environment and Countryside Programme, with an annual budget of over half a billion SEK, plays an important part in the conservation of the cultural landscape and in the promotion of sustainable agriculture. Close to 500,000

JAN TÖVE/PIXELFACTORY



Many wetlands have disappeared as a consequence of drainage. Wetlands are useful in that they help purify water, and they are also home to great biological diversity. The removal of financial support to drainage, together with restoration efforts, will increase the total area of wetlands in Sweden.

hectares of meadow and pastureland, representing a very significant natural and historical value, are maintained today thanks to this programme.

The aim of Sweden's forestry policy is to create policy instruments combining the conservation of nature and the cultural heritage with economic development. However, several analysts are of the opinion that the incentives to preserve nature offered to private businesses and individual users are too weak to have the intended effect. Certain financial support measures which were in fact detrimental to biological diversity, such as support for the drainage of wetlands or the construction of forest motor roads, have been removed in recent years. In addition, consumers of wood and paper products wield a powerful tool in that they can require producers to live up to their environmental commitments. In this context, systems of voluntary environmental certification are important as they make consumers better able to choose products which are more respectful of biological diversity.

2. Research, training and information

According to Article 12 of the CBD, countries are to promote research which contributes to the conservation and sustainable use of biological diversity. Sweden has implemented substantial parts of the decisions taken as regards how this article should be translated into practice, and Sweden also works at the international level to further strengthen the role of science in the implementation of the CBD. In 2000–2004, the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning, the Swedish Science Council and the Swedish Species Information Centre together allocated 440 million SEK to research on biological diversity, including issues relating to its benefits and status, and on threat factors and methods for measuring changes in biological diversity. The Swedish EPA funds a range of research projects on sustainable forestry, wetlands conservation, nature conservation in coastal landscapes, evaluation of the impact of agricultural policy on the landscape, and assessment of threats to biological diversity. In addition, the Swedish Species Information Centre is coordinating a globally unique project: the Swedish Taxonomy Initiative, which will devote 20 years to the systematic inventory and description as well as the attractive presentation of all 60,000 species of higher organisms found in Sweden. Furthermore, through the Swedish International Development Cooperation Agency, Sweden runs a number of programmes to build taxonomical skills in other countries.

In this context, however, a problem highlighted by the report should be noted: since the study of taxonomy has long suffered from relative neglect in Sweden itself, we now risk facing a shortage of taxonomically skilled people in the future. Indeed, this shortage is already apparent and hampers monitoring and research activities. In the long run, this will lead to serious deterioration of our ability to understand the conditions of biological diversity.

To promote the aims of this research, it is important to ensure that there are channels for communicating research findings to those working on biological diversity.

TORBjÖRN LILJA/PIXELFACTORY



Today, 1–2 per cent of research budgets is spent on scientific communication: seminars, workshops, books, external lectures, popular science articles and public conferences. However, there is a great deal of concern, not least in the research community, that this may not be enough. The report concludes that cooperation between researchers and officials in the public and private sectors must increase in order for research to be used in work on biological diversity.

At the same time, there is a growing realisation that biological research in and of itself cannot answer all questions relating to the implementation of the CBD. Mastery of the complex social contexts involved requires interdisciplinary research. However, attempts to make research more relevant to society are hampered by the traditionally low status of interdisciplinary research, by difficulties in bridging cultural barriers between academic subjects, and by other factors.

The written communication on nature conservation issued by the Swedish Government in 2002 stresses the decisive importance of training and public education in the process of conversion to a sustainable society. This policy is a good reflection of the decisions taken under the CBD for the implementation of its Article 13 on public education and awareness. There is no shortage today of education opportunities in biological diversity. The curriculum of compulsory school (ages 6–16) includes explicit guidelines indicating what pupils should learn about ecosystems and their own biological surroundings. There is a wide range of university-level study programmes covering various aspects of biological diversity. Public institutions which are active in the field of biological diversity often organise well-designed exhibitions or produce websites and other material intended for the general public. Universities and university colleges have a general strategy whereby they try to attract attention and thus enhance their reputations by making the findings of their researchers visible in the media. Further, a number of initiatives by local authorities aim to make the general public more knowledgeable about biological diversity – nature paths, travelling exhibitions, outdoor classes, etc. The communications strategy of the Swedish EPA includes methods to communicate how biological diversity is beneficial to citizens' quality of life. The above-mentioned Local Investment Programmes are also used to build awareness of biological diversity among the inhabitants of individual municipalities. Another previously mentioned project, the Swedish Taxonomy Initiative, may be the most important effort of all at present when it comes to educating the general public. In addition, the Swedish Biodiversity Centre's 'ethnobiology' project could potentially be important. Its aim is to compile interesting and useful historical knowledge about the use of biological diversity in Sweden.

However, it is not easy to form a clear idea of the impact actually exerted by these various efforts on public awareness of the importance of, and threats to, biological diversity in Sweden and globally. Sweden does not have a considered strategy for needs analysis and follow-up of these activities.

3. Public participation

In international discussions, Sweden strives to promote opportunities for local and traditional communities to participate in decision-making relating to biological diversity in their surroundings, and through the Swedish International Development Cooperation Agency and the SwedBio programme Sweden also provides financial support to facilitate such participation. These issues are not specified in any of the CBD articles but have still come to play a prominent role in the work carried out, not least through the implementation of the basic principles of the Ecosystem Approach. The CBD does, however, pay special attention to indigenous and local communities as regards the protection of their traditional knowledge and practices (Article 8(j)).

The aims of Sweden's actions are to strengthen development towards democracy and to bring about decisions and measures which work in practice because they meet and promote the needs of those concerned by them. Popular support is vital for the success of nature conservation projects in Sweden as well. The work carried out at central government agencies to enhance dialogue and cooperation on biological diversity has intensified in recent years. Local authorities, given their extensive interactions with the inhabitants of their municipalities, have an important part to play in strengthening local 'ownership' of nature conservation measures. As regards the establishment of nature reserves, it is clear from the regulations relating to this subject that the interested parties must be consulted before a nature reserve can be created. However, critics claim that the Swedish legislation is not compatible with the traditional ways of life of indigenous populations and that private individuals are unable to influence processes on the same terms as government agencies and large businesses.

The term 'indigenous and local communities' has come to be interpreted in Sweden as encompassing the Sami people, practitioners of traditional transhumance in the mountains and along the coasts as well as some local fishing communities. However, some people are of the opinion that a wider definition including all users of biological diversity would make it easier to safeguard important knowledge. A particularly prominent issue in Sweden relates to the Sami's rights to influence decisions affecting their exercise of traditional practices such as fishing, hunting and grazing their reindeer in the forests during the winter. The Swedish Government has recently proposed increasing the powers of the Sami Parliament in matters relating to reindeer husbandry, and a public commission of inquiry has suggested that collaboration between Sami villages and landowners in matters relating to fishing and hunting rights should be enhanced. Measures have also been proposed to strengthen the position of the Sami language.

Support to preserve traditional knowledge has long been relatively neglected, largely because of a lack of vital documentation and overview. However, this issue has recently received more attention through the establishment of a new national programme whose task will be to document and safeguard knowledge of the ways in which people have used biological diversity.

4. Cooperation with other countries

Article 5 of the CBD stresses that work under all articles should be promoted through cooperation between countries. As a result of its membership of the European Union, Sweden is part of extensive regional cooperation on several important matters. One example is Natura 2000, a network of protected areas covering all of Europe which is an important tool to ensure that threatened species have suitable habitats. Sweden has almost 4,000 such areas, covering a total of 6.4 million hectares of our territory. Besides EU cooperation, Sweden also participates in relevant nature conservation cooperation under the aegis of other organisations such as the Council of Europe and the United Nations.

Articles 16–19 of the CBD concern cooperation with other countries on technology and knowledge, while Article 20 deals in part with financial support to developing countries. The efforts required for compliance with these articles also involve helping to enhance interest, know-how and commitment to the development of biological diversity in other countries. A major challenge, identified as a priority within Swedish development cooperation, is to promote good governance and sustainable management of biodiversity in developing countries, through support to capacity building.

Sweden provides general financial support to the Global Environment Facility, the main financial body of the CBD. However, since the Global Environment Facility finances work in fields other than biological diversity as well, it is difficult to determine the contribution made by Sweden to the implementation of the CBD through such support. The same applies to the support provided by Sweden through the Swedish International Development Cooperation Agency (Sida) to a large number of projects and programmes which are directly or indirectly relevant to the sustainable use of biological diversity. While it is rare for development projects relating to biological diversity to have compliance with the CBD as an explicit aim, they often operate in line with the CBD's intentions. A few examples of relevant activities are BIO-EARN (a programme for the development of biotechnology in East Africa which is supported by Sida), regional gene bank programmes, support provided through the Consultative Group on International Agricultural Research, and support given to international environmental organisations and policy institutes such as the World Conservation Union (IUCN) and the World Resources Institute.

In 2003, Sida and the Swedish Biodiversity Centre established the Swedish International Biodiversity Programme (SwedBio). SwedBio is a support function whose mandate is to strengthen the work on biological diversity in the framework of Sweden's development cooperation from a poverty reduction perspective. It assists Sida with expertise and allocates support to strategic initiatives in developing countries which strive to develop policies and methods as regards the importance of biological diversity for poverty reduction. The aid provided also includes training in and support for environmental work, such as the drawing up of environmental impact statements. Swedish

cooperation with developing countries in the field of research is managed by Sida's Department for Research Cooperation (SAREC).

Articles 17 and 18 of the CBD, which deal with the exchange of information and with cooperation and networking, are examples of articles which have faced few obstacles to their implementation. Even though the work done by Sweden in relation to these articles is not coordinated and directed to the extent called for by the CBD, there are several good examples of activities, including Sweden's participation in the Global Biodiversity Information Facility (GBIF). Sweden has been very successful in making biological data accessible through the GBIF, which is an international portal for the exchange of information on biological diversity. With over 6 million observations, Sweden is in fourth place among the participating countries.

Article 15, as has been mentioned, concerns rules for the transfer of genetic resources between countries. It stipulates that a country which is a party to the CBD owns the genes existing on its own territory but must facilitate the use of such genes by other parties wishing to do so and must be prepared to conclude agreements on the terms of such use. The CBD provides for a right to share in the benefits when genetic resources from one country yield a financial return in another country. These provisions presuppose cooperation among countries to ensure that important research and development activities can be carried out and that they are performed in a manner which is compatible with the aims of the CBD.

However, there is a great deal of frustration in Sweden with the difficulty of conducting research on material from a large number of countries which impose strict controls on access to their national genetic resources without materially facilitating the use of such material by researchers, businesses or other stakeholders.

Sweden's fundamental position is that access to Swedish genetic resources should be as free from bureaucratic and other obstacles as possible. All of the material held by the Nordic Gene Bank is accessible free of charge, and it will be included in multilateral systems for exchange and benefit-sharing. There are no rules restricting access to genetic resources in the wild. Taken together, this means that Sweden complies well with the rules of the CBD as regards the granting of access to our own resources. On the other hand, Sweden has not taken action to translate the provisions on benefit-sharing into practice, except in very special cases. Given that the sharing of benefits is one of the three main aims of the CBD, this has to be seen as a particularly serious shortcoming. However, it has been noted that there is a need to provide information and assistance to organisations and individuals collecting biological material abroad as part of their operations, and some activities to meet that need have been initiated. As part of their efforts to comply with the requirements of the CBD, the European Union and Sweden have introduced rules requiring that patent applications should mention the country of origin of material used in inventions. Such indications of origin do facilitate verification, but they do not mean, in and of themselves, that the rules of the CBD are respected. The correctness or otherwise of an indication of origin does not affect the validity of a patent.

Sharing the benefits of biological diversity is a relevant concept not least in developing countries, where biological diversity is palpably a life-sustaining resource. Sida gives priority to development projects which promote a fair distribution of the benefits from genetic resources and which consider the safeguarding and strengthening of the rights of indigenous and local populations to be a particularly important issue. An absolute prerequisite for Sida's provision of support to research on genetic resources is the existence of a transfer agreement regulating issues in connection with the benefits of the research.

The report says that the implementation of this article is made more difficult by the failure to mainstream concern for biological diversity in all economic sectors. In fact, issues of access to genetic resources and the sharing of benefits from them are regulated not only by the CBD but also by several other – partially overlapping – agreements concluded under the aegis of both the United Nations and the World Trade Organisation (WTO). At the international level, one problem has been to reach agreement within the WTO as to whether the rules of the CBD should give rise to special provisions in the WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). However, special collaborative practices are emerging in some sectors. For example, botanical gardens have developed their own International Plant Exchange Network for non-commercial exchange, which is considered to represent good practice in the handling of exchanges of plant material.

To sum up, many of the international collaborative practices which come across as particularly effective and successful are based on voluntary commitments by businesses within the same industry or by a number of organisations across the world which belong to the same category, such as zoological gardens and parks, botanical gardens or research institutions. Because such practices arise from specific common interests and problems, they may often be more effective than centralised measures managed by government agencies.

Conclusions

One general impression is that Sweden's 16 environmental quality objectives, taken together, really do constitute a powerful tool for broad-based and effective work in the field of the environment and nature conservation. While there is no exact match between the content of the environmental quality objectives and that of the CBD, most of the points of the CBD are captured and adapted to Swedish circumstances by the environmental quality objectives. However, no explicit ambition to cover Sweden's impact on biological diversity in other countries is expressed by the environmental quality objectives, and this comes across as a shortcoming in the CBD context.

For the full implementation of the CBD to be possible, the general public must be knowledgeable about and committed to biological diversity and able to assume responsibility by influencing relevant decisions. It is also essential to ensure that responsibility for biological diversity is explicitly spread across all sectors of society. The work on Sweden's third National Report under the CBD has shown that many important steps have been taken in Sweden to translate the CBD's ideas of conservation, sustainable use and fair sharing of the benefits of biological diversity into concrete practice. At the same time, however, serious shortcomings were identified. These are attributable to severe conflicts of interest as well as to a shortage of knowledge and a lack of instruments on the part of societal organisations and stakeholders.

One important shortcoming was apparent at an early stage of the work on the report: The vast majority of the organisations which were asked to provide material for the report refrained from answering, claiming that the questions asked did not concern them or that they did not understand them. These questions had been drafted by the Conference of the Parties and made reference throughout to joint decisions taken to facilitate the implementation of the CBD. The fact that these questions were incomprehensible in a Swedish setting indicates that the gap between Sweden's international work to promote biological diversity and the more tangible work carried out at home has grown too wide. Indeed, the discussions carried out in CBD contexts, like the notion of 'biological diversity' itself, are in fact rather abstract in nature, as was pointed out by several interested parties in the course of the work.

However, these are not insurmountable problems. After more than a decade of political discussions on the overall aims and ambitions of the CBD, the work done at the global level is now also beginning to focus on the achievement of measurable improvements to the water and land environments of the countries involved. Moreover, many countries have been critical of the format of the national reports, and chances are good that the next report, which is to be submitted in 2009, will be better designed to capture experience and results from practical nature conservation work at the national level. Ahead of the next reporting round, it is also important to reflect on how best to present the questionnaire to informants in Sweden so as to ensure that they can contribute without having to shoulder an unreasonably heavy burden of work.

Further reading

General

Official website of the Convention on Biological Diversity: www.biodiv.org

Swedish portal to the Convention on Biological Diversity: www.biodiv.se

Website of the Swedish Environmental Protection Agency:
www.naturvardsverket.se

Reports on Sweden's work

Sweden's official reports to the CBD Secretariat:
<http://www.biodiv.org/world/map.asp?ctr=se>

Environmental Objectives Portal: www.miljomal.nu

De Facto 2007 – Sweden's Environmental Objectives in an Interdependent World, Swedish Environmental Protection Agency, 2007,
ISBN 91-620-1260-6

Research and monitoring

Millennium Ecosystem Assessment: www.millenniumassessment.org

Global Biodiversity Outlook 2: www.biodiv.org/gbo2

2004 IUCN Red List of Threatened Species – A global species assessment.
IUCN, 2004, ISBN 2-8317-0826-5

Rödlistade arter i Sverige 2005 ('Red-listed species in Sweden, 2005'), Art-Databanken, Ed.: Gärdenfors, U., 2005, ISBN 91-88506-30-4 (in Swedish)

Swedish Taxonomy Initiative:
http://www.artdata.slu.se/svenskaartprojektet/svenskaartprojektet_eng.asp

Sweden and the Convention on Biological Diversity

REPORT 5693

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Summary of Sweden's third National
Report to the Secretariat of the
Convention on Biological Diversity

The Convention on biological diversity came into effect in 1993. It has been ratified by over 180 nations. The Convention guides the efforts of the signatory states to conserve biological diversity, through for example sustainable use of biological diversity, research, monitoring, education, and environmental impact assessments for activities that impact on biological diversity.

Sweden reported in 2005 for the third time on our implementation of the Convention. The national report was substantial in content and adhered to the format decided by the Convention.

The present report presents the main contents of the national report in a more easily accessible format. The target group consists primarily of those actors that were asked to contribute to the national report, but also the general public and actors and stakeholders in other countries. The report gives an overview of the linkages that exist between global goals and targets and Sweden's national political goals. It presents the main activities that contribute to the implementation of the Convention, and also briefly describes important shortcomings and obstacles.